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APPLICATION OF ACOUSTIC SIGNAL PROCESSING TECHNIQUES TO SEISMIC DATA

by

Cynthia E. Irvine

June 1977

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Application of Acoustic Signal Processing Techniques to Seismic Data

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Abstract

In order to obtain an effective discriminant between earthquakes and explosions, techniques which originally had been developed for acoustic signal processing have been applied to seismic data. These techniques include Fourier analysis and related applications software as well as interactive graphics displays of the data. A numeric has been obtained which may provide a useful discriminant between earthquakes and explosions.

In conjunction with this investigation, a large amount of seismic data has been consolidated. These data are discussed.

Keywords: signal processing, seismology, detection, discrimination

I. Motivation

An effective system used to monitor nuclear testing by all members of the world community is a prerequisite to obtaining a meaningful treaty to either limit or ban nuclear testing. Clearly, unrestricted on-site inspection by an unbiased group of observers provides a most effective way of assessing the activities of all parties involved. Regrettably, the competitive aspect of human nature may render this method of investigation useless and reliable alternative techniques must be found to monitor clandestine nuclear testing.

The measurement of the density of certain radioactive materials in the atmosphere has been used as an indicator of nuclear test activity. Atmospheric testing or leakage from underground tests can cause a detectable increase in the atmospheric abundance of radioactive waste products. By following the movement of these radioactive clouds, it is possible to localize their origin. Atmospheric evidence will be nugatory when an underground test is completely contained.

Cratering, a by-product of surface testing or the subsidence of chimneys produced in underground tests, may be visible on some satellite photographs. However, cratering can be caused by natural processes and by various non-nuclear man-made projects or it can go undetected.

The detection of seismic signals caused by explosions

provides yet another means of monitoring nuclear test activities. Not all seismic signals resulting from explosions can be detected. Seismic signals are detectible from both subterranean and surface explosions. The Baker test in the Bikini atoll in July 1946 was fired underwater. Detectors in California recorded the event. The transfer of energy from surface tests to seismic waves is only partial (Richter 1958). Some explosions are too small to be detected and others are indistinguishable from natural seismic events such as small earthquakes or rockslides.

This report presents the results of a program to improve the reliability of the seismic detection of nuclear explosions. A seismic monitoring system for explosions must satisfy three objectives: first, each event must be detected above random noise; second, it must be located; and, finally, it must be distinguished from naturally occurring seismic activity.

II. Review

Consider some of the facts known about earthquakes and explosions and their detection at teleseismic distances.

Seismic events are characterized by a variety of waves emanating from their foci. The three most powerful and best known of these waves will be reviewed.

The first signals from a seismic event to arrive at a distant detector are the undae primae or P waves. Vibrating in the direction of propagation, these longitudinal or "compressional" waves are able to penetrate the earth's crust, mantle , and liquid core.

Undae secundae, S waves, propagate at a lower speed than P waves. They cause transverse or "shear" motion in the surrounding medium; in other words, they set up oscillations perpendicular to their direction of propagation. Because of their transverse nature, S waves are unable to propagate through liquids and do not penetrate the earth's core.

The third type of seismic wave has been given the name surface wave because it travels along the surface of the earth rather than deep in its interior. They are guided waves following a channel between two discontinuities one of which is the earth's surface. The other is the Mohorivicic discontinuity. It delimits the base of the continental crust and is a point where S and P waves undergo dramatic

velocity changes due to a transition in the elastic properties of the medium.

It is necessary to point out that not all types of seismic waves are seen with the same relative strengths for all types of seismic events. Typical earthquakes are caused by slipping or "shearing" along a fault. Thus the S or "shear" waves resulting from an earthquake are quite strong. The situation for explosions is quite different. They are essentially point source impacts and show a marked reduction in strength of the S waves relative to the P waves. In addition, surface waves from explosions are often imperceptible. The ratio of P wave energy to S wave energy or the ratio of compressional waves to surface waves can provide an indication of the properties of the generating event (Leet 1962; Lacoss 1969). Unfortunately, the relative amplitudes of the different types of waves do not yield a foolproof discriminant between earthquakes and explosions. A large explosion near the earth's surface may cause strains which will produce S waves. Also, since the amplitude of surface waves is proportional to exp (-H), where H is depth, many deep focus earthquakes show no surface waves.

The detection of an event will depend upon the amplitude of the signal received by the seismometer. If the signal is small and the detector insensitive, then, without the proper use of signal processing techniques, the event may pass unnoticed. It is possible that the detector has not been "tuned" to the dominant frequency of the signal, or that the

detector and subsequent processing filter out useful information at certain frequencies. For small events, the balance will be weighted against detection.

The amplitude of the signal received is proportional to the energy or yield of the event. However, the correlation is not exact since there is a strong dependence of the amplitude of the seismic signal upon the type of material in which the event originates. Consider alluvium, an example of which is the material deposited in river beds. Ten times the explosive energy will be required by an event occurring in alluvium to produce the same effect at the detector as an event occuring in granite (Bullard 1966). Since the signal can also be attenuated by the material in which the seismometer is embedded, its location at a geologically favorable site enhances the likelihood of detecting small events.

Another factor influencing the detection of seismic signals is background noise. This can be quite significant in heavily populated areas, where trucks, trains, construction and many other aspects of human activity pump noise into the ground. Isolated areas are by no means all free of high levels of background noise. The pounding of the surf in coastal areas or the transmission of wind energy into the ground by forests can also introduce significant amounts of background noise. Many sources of microseismic noise appear to be unavoidable. The evidence suggest that large weather systems cause an increase in microseismic noise.

To minimize both noise and attenuation, detectors are best located toward the centers of continents, often in regions of granite. LASA, the Large Apeture Seismic Array, located near Billings, Montana, is a good example of a modern seismic detection system. Instead of merely one seismometer, it consists of 21 clusters or subrarrays each containing 25 seismometers. Its diameter is 200 kilometers. Each seismometer is buried approximately 61 meters underground to minimize the effects of surface noise. Presently only 13 of the subarrays are in use. Because it is so large, it takes a measurable time for signals from many Eurasian sites to traverse the LASA array. It is possible to calculate time shifts in the data recieved at each seismometer so that the entire array appears to be "steered" in a particular direction.

Discrimination of explosions from earthquakes can usually be accomplished by a combination of the four methods discussed below.

A. Location of the event

The velocity of seismic waves through the earth is finite; therefore, a more distant seismometer will receive the signal from an event after a nearer one. With data from several seismometers or seismic arrays scattered about the earth, triangulation methods can be used to locate an event. Inaccuracies in location are contributed to primarily by local irregularities in seismic velocities caused by

variations in conditions of the earth's upper crust and mantle. Each detector may be located in geologically dissimilar regions and the rocks beneath the event itself may have different propagation velocities in different directions.

Not all regions of the earth have the same seismicity. The "ring of fire" or circum-Pacific belt defines a very active region. Hardly a year passes without an earthquake or volcano wreaking havoc in one of the many countries fronting on the Pacific. Other regions are seismically inactive and include the Canadian shield, the Brazillian shield, western Australia, the Angara shield of northern Asia, and most of Africa. (Dott and Batten 1976). An event located in one of these stable areas must be suspected of being an explosion. Of course, location alone is insufficient to determine the nature of the event, but, when combined with other data, it often provides strong circumstantial evidence for discrimination.

B. Complexity of the signal

Explosions are basically simple events. A force emanating from the explosion's focus impacts upon the surrounding meduim causing the propagation of seismic energy through the earth. Their spatial and temporal locations can be well defined. On the other hand, earthquakes are rather complex. The event occurs along a fault which may be many kilometers in length and is not instantaneous at every point along the

fault.

The complexity of the signal received at the seismometer is often an indication of the genre of the original event. An explosion usually has a very simple signature while those of earthquakes are much more complex. This method is not foolproof. A nebulous zone of simple earthquakes and relatively complex explosions clouds discrimination.

C. Depth

Depth also provides a means of distinguishing the two types of events. The deepest earthquakes occur 750 kilometers beneath the earth's surface and about 30 percent of all earthquakes take place at depths below 50 kilometers. It would be impractical if not impossible to drill holes of that depth in which to place explosive charges. Unfortunately, depths for shallower earthquakes sometimes cannot be determined with the accuracy necessary to enable their discrimination from explosions.

D. Relative strengths of S, P, and surface waves

As mentioned previously, the S and surface waves are not strong in explosions and thus there is a third criterion by which earthquakes and explosions can be distinguished. This too is an imperfect method, particularly when working at or near the limits of the detectors. S and surface waves can be buried in noise and earthquakes may be indistinguishable from explosions. Several methods have been postulated which

can be used to evade or obfuscate detection of nuclear testing. One technique used to diminish the apparent amplitude of an explosion is to set the charge off in a large cavity. As in the case of a surface test, less energy is transmitted to the ground. By setting several explosions off along a line and in a well timed sequence, it is possible to increase the complexity of the signal recieved sufficiently to make it appear like an earthquake.

In this paper a possible new method for distinguishing explosions from earthquakes will be presented. It does not depend upon depth, the detection of S or surface waves, or the appearance of the P waves in the time domain. Through examination of the P wave signatures in the frequency domain it has been shown that the energies delivered in certain frequency intervals differ for earthquakes and explosions. By taking advantage of these differences, a numerical discriminant was developed.

The report includes a discussion of the data received, its value as a large collection of seismic events, and questions regarding its integrity.

III. Equipment

The Computer Laboratory of the Naval Postgraduate School is designed to provide the equipment necessary to conduct research in the areas of digital signal processing and computer science. A number of computers within this laboratory were used for this project.

A. Adage AGT-10

Designed for interactive graphics display, the Adage AGT-10 system consists of a display screen which is refreshed 40 times per second, a main computer with 16K of memory, a disk drive for additional storage, and a teletype. A set of 16 function switches, a joystick, six control dials, a lightpen, and foot pedals allow a variety of user interactions. Its 30 bit word length and well designed programming language make program execution rapid. Thus there is little perceptible delay between an interactive command and its product on the screen.

With an interface to the SDS 9300, it is possible to obtain interactive graphics display of large signal processing programs.

B. SDS 9300

The Scientific Data Systems SDS 9300, is a medium sized second generation computer. It was the nucleus for the majority of the signal processing done for this research. It has a 1.75 microsecond cycle time, 24 bit words, and 32K of

memory. Included among its peripherals are: two seven-track tape drives, a card reader, a line printer, a drum for mass storage, and a teletype. This computer is interfaced to the Adage AGT-10, the CSP-125, and the Comcor CI-5000, all of which were used.

Languages available to SDS 9300 users are FORTRAN and an assembly language called Metasymbol. Because of its many interfaces, a variety of FORTRAN callable subroutines is available for intercomputer communications.

C. CSP-125

The CSP Incorporated CSP-125 is a 16 bit digital computer with a cycle time of one hundred nanoseconds. It is designed to rapidly perform the calculations necessary for signal processing of massive quantities of data. Of its 16K of memory, 4K consists of logically equivalent IC and core memory. Through its interface with the SDS 9300, the CSP-125 can be sent time data. The transform is computed in the CSP-125 and the spectrum is delivered to the SDS 9300.

The CSP-125 has the capibility of doing transforms either through software or its hardware box. Due to scaling problems, the latter has not been used extensively.

D. Comcor CI-5000

A hands-on analog computer is available to users of the laboratory facilities in the form of the Comcor CI-5000. Programming is done on patchboards. The use of the CI-5000

in this research was quite limited and very simple. By using its interface with the SDS 9300, chart recordings of the digitized time data were obtained.

E. PDP 11/50

The PDP 11/50 is a state of the art fourth generation 16 bit digital computer built by the Digital Equipment Company. The system at the Naval Postgraduate School is more complex than that found at other installations since two PDP 11/50's share a section of common memory and acess three 80 megabyte disc drives through a dual port controller. The UNIX timesharing system developed at Bell Laboratories is currently being used. Because these computers have been subjected to extensive on-going system developement, they did not provide a secure environment in which to undertake a project involving a large data base.

One of the peripheral devices to the PDP 11/50 system is the Versatec Printer/Plotter. It was ideal for obtaining hardcopy of the graphics displays of the AGT-10. The necessary software was written so that an output tape from the SDS 9300 could be mounted on the PDP 11/50 and the display data plotted with the Versatec.

IV. Software

A series of computer programs was written or modified to allow a large data sample to be analyzed. In this section a brief description of this software is given. For more details about each program, the reader is referred to Appendix A.

A. READDATA

This program was written to transcribe the BCD data tape provided by ACDA into a more compact binary form which was also compatible with existing signal processing and display programs.

A standard header record was designed and all signal processing programs were written or modified to conform to the universal header record.

B. DSO

Designed to display the unprocessed seismic waveforms, the Digitally Simulated Oscilliscope or DSO program takes full advantage of the interactive features of the SDS 9300/AGT graphics system. With the capibility of handling up to ten seismograms simultaneously, its options are selected by using the function switches on the AGT-10 and include: namelist, timesweep, amplitude scaling, trigger, variable timebase, and spotlight.

C. DXD

Essentially the same as DSO except for changes in the input parameters and data, the Digital Transform Display or DXD allows the simultaneous display of as many as ten transforms. Transforms are read into the computer and stored on the drum. It is then possible to sweep in any direction through the transforms either in frequency or in time.

Its options are similar to those of DSO and include: namelist, frequency sweep, timesweep, amplitude scaling, trigger, variable frequency resolution, and spotlight.

D. NIFTY

Written to facilitate the handling of the numerous magnetic tapes involved in the project, NIFTY consists of tightly coded assembly language subroutines covering all aspects of tape manipulation. A master program, written in FORTRAN, may be compiled with the subroutines for stand-alone or overlay use or the subroutines can be used in conjunction with arbitrary programs.

Options available to the user of NIFTY include: reading and writing tapes in either BCD or binary; skipping forward or backward a specified number of records or files; dumping a tape out onto another tape or onto the lineprinter; writing end-of-file marks on tapes; and rewinding tapes.

E. XFORM

Designed to take fast Fourier transforms of up to 1024 points in length with a user specified increment between transforms, this program can be used stand-alone or, with slight modification, as a subroutine. By taking full advantage of the drum peripheral to the SDS 9300, this program was designed to minimize execution time when used as a part of an interactive graphics display package.

The user can choose to have an average noise transform computed from the average of the first k transforms. These are used to compute the deviation from the mean of the original transforms.

$$X(f) = \begin{cases} x_i(f) - \overline{x}(f) & \\ 0 \quad \text{if } x_i(f) - \overline{x}(f) < 0 & \end{cases} \qquad i = 1, N$$

where

$$x(f) = 1/k \sum_{i=1}^{k} x_i(f) \qquad k < N$$

This proceedure can, in many cases, result in signal enhancement.

F. ON-LINE-FSP

The Extended Signal Processing program was developed to provide the user with a versatile display of transformed signals in three dimensions through which the dynamic characteristics of the signals in both the frequency and time domains could be studied. Originally designed for use with a few long data sets, ESP underwent extensive modificatins to allow it to be more efficient when processing the numerous short seismic data sets. An option was included to allow the transforms to be preformed while the interactive graphics display was in progress. Other features added to the program were the ability to handle multiple file input tapes and a hard-copy option. The hard-copy option was particularly useful when making comparisons of the qualitative aspects of various events. The following options are available to the user: namelist, input halt, amplitude scaling, frequency sweep, spotlight, hard-copy, and harmonic display.

G. BANDS

This program was written to aid the search for a quantative discriminant between earthquakes and explosions. Transforms were taken on-line and, within specified frequency bands, a numeric was found which was chosen to be proportional to either the amplitude or the power of the Fourier coefficients within that window. The algorithm is essentially a simple integration:

$$\text{Band factor } i = \sum_{j=SBi}^{EBi} x_j \times \text{resolution} \,/\, \begin{array}{l}\text{normalization factor}\\ \text{for window widths}\end{array}$$

where

SBi is the starting frequency of band i

EBi is the ending frequency of band i

xj is either the amplitude or power of the Fourier coefficient,

and if no normalization is desired, the normalization factor is set equal to 1.

The results were stored on magnetic tape and could be processed through an output program, RSLTS, which allowed the user to choose several options for normalization and intercomparison of the data and obtain a hard-copy print out.

Program options included a choice of either amplitude or power results, normalization with respect to window width, noise subtraction, and output normalization with respect to any frequency band for the spectra collectively or individually.

H. EQPLOT

EQPLOT, the hard-copy plotting program, was written in C, the high level programming language available within the UNIX operating system, which has been implemented on the PDP-11/50. The hard-copy output was obtained on the Versatec printer/plotter. Working essentially as a black-box

program, EQPLOT took the results of the ESP hard-copy option and formatted them for plotting.

The hard-copy capability we have developed allows the user to make detailed comparisons between the spectral characteristics of earthquakes and explosions. The user is not forced to rely on the remembered appearances of interesting event after they have disappeared from the AGT-10 screen.

V. Observations

Most explosions can be distinguished from earthquakes using a combination of the following: location, complexity, depth, and the presence or absence of S and surface waves. There are, however, exceptional events. The discrimination of these was a motivation for this research.

To be meaningful, a discriminant must be valid for typical as well as extraordinary events. Consequently, a large sample of events from many sites and possessing a range in depth and magnitude was examined. To eliminate variations caused by using data obtained at several sites on many different kinds of detectors, only data from LASA were used.

Two sets of data were obtained: a copy of a tape, sent by Control Data Corporation, dubbed from data in the files at MIT and elsewhere and approximately 110 events through ACDA. The MIT data consisted of 327 events from 1966 through 1974. Of these, 215 included steered beam sums and data from four subarrays, either F1, F2, F3, and F4 or D1, D2, D3, or D4. The ACDA data were sent by Teledyne Geotech in Alexandria, Virginia and included 25 explosions and 84 earthquakes. These data included all of the operative subarrays at LASA but not the main beam.

Preliminary analysis was based upon the application of graphical display techniques originally developed at the Naval Postgraduate School for acoustic signal processing.

Software was optimized for use with seismic data.

A selection of events was processed using On-Line-ESP. With its dynamic capibilities and hard-copy option, it was possible to tell that the frequency distributions of explosions were quite different from those of earthquakes. Figures 1 - 7 illustrate this point.

It was found that certain test sites possessed distinctive signatures on the spectra obtained from transforming the LASA data. In particular, events originating from Semipalatinsk were quite unique and it took only a little practice before most events from that location could be identified solely on the basis of their spectra.

Software was developed to aid in the search for a quantitative discriminant based on the spectral differences between the events. It was found that, for some events, signals were detected at the highest attainable frequencies. Since the sampling rate determines the highest reliable frequency on a transform, subsequent discussions will be based solely upon subarray data from the MIT tape having a sampling rate of 20 samples per second. Only events prior to 15 April 1969 were truly sampled at 20 samples per second. The reader is referred to the discussion of the data for more information regarding the sampling rates. The sampling rates of the data were programmatically verified.

By processing the data with the subroutine BANDS, the sums of the amplitudes of the Fourier coefficients within

several spectral windows were found. The spectral windows chosen were:

r_1 0.4 - 0.6 Hz,
r_2 0.6 - 1.0 Hz,
r_3 1.0 - 1.4 Hz,
r_4 1.4 - 2.0 Hz,
r_5 2.0 - 3.0 Hz,
r_6 3.0 - 4.5 Hz,
r_7 4.5 - 6.0 Hz, and
r_8 6.0 - 9.0 Hz.

To accentuate the response in the larger high frequency windows, the sums were not normalized with respect to window width. However, to aid comparison of events, the results for each window were normalized with respect to the results for the 0.6 to 1.0 Hz window.

A good correlation was found between the amplitude in the 0.6 to 1.0 Hz window and the magnitude, m , of the event. (Figure 8) The data on explosions and shallow focus earthquakes were separated into groups according to their unnormalized amplitudes in the 0.6 to 1.0 Hz window. The groups were as follows:

A 0.1 - 0.5 x 10^5,
B 0.5 - 0.999 x 10^4,
C 0.1 - 0.499 x 10^4,
D 0.5 - 0.999 x 10^3, and
E 0.1 - 0.499 x 10^3.

Means were calculated for each r within each of the five groups. Despite the fact that the normalized response in the windows covering 1.0 to 4.5 Hz was a function of the magnitude of the event, a simple discriminant was attainable.

We found that, for all explosions, the response in the 1.0 - 1.4 Hz window was greater than that in the 0.6 - 1.0 Hz window. The reverse was true for earthquakes which also had higher means at 0.4 - 0.6 Hz than did explosions. A discriminant can be constructed from the simple combination of these responses and is written as:

$$D_j = \sum_{i=1}^{8} n_i \, r_{ij} \quad ,$$

where r is one of eight spectral windows for event j and n is a normalization factor depending upon the amplitude at 0.6 - 1.0 Hz or the magnitude, m , of the event.

VI. Discussion

The discriminant gave strongly negative values for essentially all deep and shallow focus earthquakes and zero to strongly positive values for all explosions. Signals arriving at LASA from Nevada Test Site, NTS, explosions yeilded anomalously negative values; however, because of the proximity of NTS to LASA, they are not teleseismic. It may be necessary to consider local crustal conditions when using spectral criteria based on such nearby events.

Inspection of the data and plots of amplitude versus frequency revealed that earthquakes with magnitudes below 5.5 have a common high frequency asymptote, while larger earthquakes have a higher, but parallel, high frequency asymptote. A factor largely responsible for this result may be the increased source persistence of larger earthquakes. No high frequency asymptote was found for explosions. This does not preclude the possibility that such an asymptote exits; nevertheless, within the frequency range studied in this project, none was found.

Graphical analysis of the earthquakes and explosions using tentative estimates of the attenuation resulted in estimates of the source spectra. It is possible to explain the low D values obtained at several sites as being the result of differences in attenuation at the site. For example, lower D values will result when the explosion takes

place in softer rocks. The lower than normal D values for Novaya Zemlya can be explained by the fact that these few very large explosions were dragged down while being averaged with other members of Group A. By separately reanalyzing these events, it is possible to bring their D values up to more positive levels. Also it should be noted that for such large events, the roll-over in the source spectra occurs at frequencies less than 5 Hz. This will contribute to somewhat lower D values. The low D values for the NTS explosions can be explained as being due to frequency sensitive attenuation.

Given data between 6 and 9 Hz, it is possible to evaluate attenuation effects for an arbitrary event and, if its attenuation has a higher frequency dependance than normally found for earthquakes, a modified discriminant can be calculated by first adjusting the data to give a high frequency dependancy similar to that of an earthquake and then proceeding as usual.

It may also be possible to compute yields for explosions from uncalibrated sites. Once an event has been determined to be an explosion, it is possible to force the data to fit the observed spectra for Site A at Semipalatinsk. The resultant amplitude near 1 Hz is proportional to magnitude from which yield can be found using a known relationship between yield and magnitude.

For a more detailed discussion of our data analysis, the

reader is referred to Appendix B which contains a presentation by Evernden (1977) of preliminary findings taken from this study.

VII. Data

As mentioned above, it is necessary to discuss the data. One would expect that the number of observations that have been collected in this program of both earthquakes and explosions would provide seismologists with a useful data-base for further research. However, questions as to the integrity of these data have been uncovered. It is felt that any research based on them is rendered suspect, including that reported in this paper and consequently the paper of Evernden (1977), which describes this study. Below are discussed some of the revelations that gradually surfaced.

A. Sampling Rate

In October 1975, a copy of a tape that had been dubbed from events selected from the data library at MIT's Lincoln Laboratories and elsewhere was received through Control Data Corporation and Col. Russell Ives. Enclosed with the tape was a complete description of its format. The data for each event included three records of header information. Although great care had been given to the location and the timing of the event, no information was given regarding the sampling rate of the data. Verbal inquiry resulted in a report that all of the data were sampled at 20 samples per second.

As the data were being processed, a difference between the older and more recent data was noticed. Concurrent with the processing of the CDC data J. Evernden obtained from a

colleague at MIT a tape with a few events on it most of which duplicated those on the CDC tape. When processing identical events on the MIT and CDC tapes we found large differences in the results. In particular, there appeared to be large differences in the frequency distributions of the spectra. At that point, difficulties with the sampling rates were suspected. A few calls to Boston and Alexandria yeilded the following tale.

At its inception LASA seismometers were sampled at 20 samples per second and the digitized data were sent to Washington where they were stored. Copies of the data were sent to scientists working in the area of seismic surveilance. The published work of many of these scientists lead to the general belief that there was no information bove 5 Hz for either earthquakes or explosions (Philco-Ford report ref unknown). Faced with the storage of massive quantities of apparently over sampled data, the decision was made to halve the sampling rate. On 15 April 1969 LASA data were decimated.

By 1969, however, a large quantity of software had been written. MIT wished to obtain data compatible with the existing software, so, at their request, Teledyne sent to MIT data which were pseudo-sampled at 20 Hz. To obtain pseudo-sampled data, two adjacent points were averaged and the resulting interpolated point was inserted between them.

The reaction to this information was complete disbelief.

Quite a bit of both manpower and computer time had been spent trying to analyze data sampled at a different rate than had been reported. A discussion with R.W. Hamming confirmed what was intuitively obvious, that high frequencies in the pseudo-sampled data would be depressed relative to high frequencies in data that were actually sampled at 20 Hz.

To be off by a factor of two when analyzing the spectra has deliterious consequences. The Nyquist frequency has been halved, thus a spectrum which appears to cover N Herz actually covers only N/2 Hertz. The band integration analysis would veild meaningless results unless the true sampling rate of the data was known and used.

B. Filtering

At the request of ACDA, an attempt to detect a few very small events had been planned. A tape, L 16283, was received from ACDA. It contained two events: one in December 1974 and the other in April 1975. It was reported that all of the data had been sampled at 20 Hz.

Preliminary analysis of the data using the ESP interactive graphics display program showed that most of the detectors had anomalous spikes at a frequency of about 5 Hz and that the amplitudes did not fall of with increasing frequency in a manner characteristic of a detector response curve. It appeared to be filtered. Again, R.W. Hamming applied his practiced eye to the data and agreed that they were rather

peculiar.

Discussion with ACDA ultimately revealed that the data had been filtered at 5 Hz. The type of filter remains unknown.

Shortly thereafter, it was discovered that, given the start time of the data and the start time of the signal for the event, the analysis lead to one of two conclusions: first, that the time window of the data did not inculde the event or, second, that the data were actually sampled at 10 Hz.

The situation could have been saved by resampling the original analog data without the use of filters and at an appropriate sampling rate. Unfortunately, the analog tapes had been recycled and the original data were lost.

C. Data Acquisition

The length of time, over a year in the case of the data on tape L 16283, to obtain much of the data was quite long. With the delay between the request for and the acquisition of data shortened, it may be possible to have less information pertaining to data specifications lost or forgotten. Of course, requests for data should be reasonalble in size.

One product of this study is a set of ascii tapes of the data received to investigate seismic detection and discrimination. The tapes include the CDC data, the ACDA supplied earthquakes, and the ACDA supplied explosions. Data

recorded prior to 15 April 1969 were sampled at 20 Hz. Data following 15 April 1969 were sampled at 10 Hz. Any preprocessing to which the data were subjected prior to reciept at the Naval Postgraduate School wa neither reported nor uncovered; therefore, the user must beware and work with this data at his own risk.

VIII. Conclusions

We have described the software tools built to analyze the large quantity of seismic data involved in this project. Using this software on short period seismic data, we have been able to obtain a numeric which may provide a discriminant between earthquakes and explosions. This discriminant appears to be effective against multishot events and, given adequate information about the path, it may be possible to discriminate events only a few degrees from the detector

The adequacy of the data we received has been discussed. We feel that every step of the data acquisition and analysis process should be sufficiently documented so that subsequent users will know the exact status of the data they receive. We have been in the unfortunate position of recieving data that were vaguely specified.

Figure Captions

Figures 1-7. These are plots made with the hard copy option of ESP of an explosion, a deep focus earthquake and a shallow focus earthquake. Notice that high frequencies are more pronounced for the subarrays than for the beam in all cases and that the explosion shows more high frequency information.

Fig 1. CDC data set event #5, Beam. Explosion at Novva Zemlya on October 27, 1966 having a magnitude of 6.3.

Fig 2. CDC data set event #5, subarray F2. Explosion at Novya Zemlya on October 27, 1966 having a magnitude of 6.3.

Fig 3. CDC data set event #5, subarray F3. Explosion at Novya Zemlya on October 27, 1966 having a magnitude of 6.3.

Fig 4. CDC data set event #202, Beam. Deep focus earthquake in the Hindu Kush region on January 20, 1972 having a magnitude of 6.0.

Fig 5. CDC data set event #202, subarray F1. Deep focus earthquake in the Hindu Kush region on January 20, 1972 having a magnitude of 6.0.

Fig 6. CDC data set event #210, Beam. Shallow focus earthquake in the Andreanof Islands of the Aleutian arc on March 20, 1973 having a magnitude of 6.0.

Fig 7. CDC data set event #210, subarray F1. Shallow focus earthquake in the Andreanof Islands of the Aleutian arc on March 20, 1973 having a magnitude of 6.0.

Fig 8. Amplitude within the spectral window 0.6 to 1.0 Hz versus magnitude of the event for explosions and earthquakes.

FIGURE 1

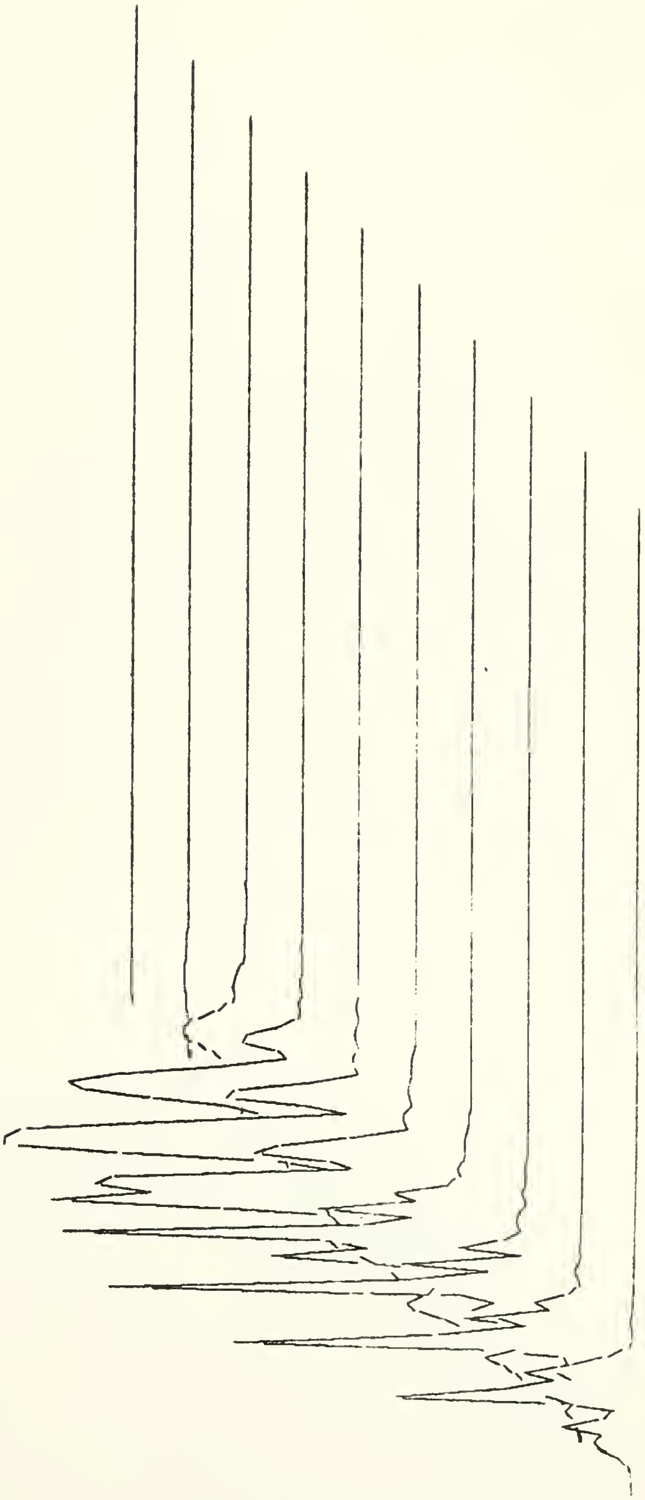


FIGURE 2

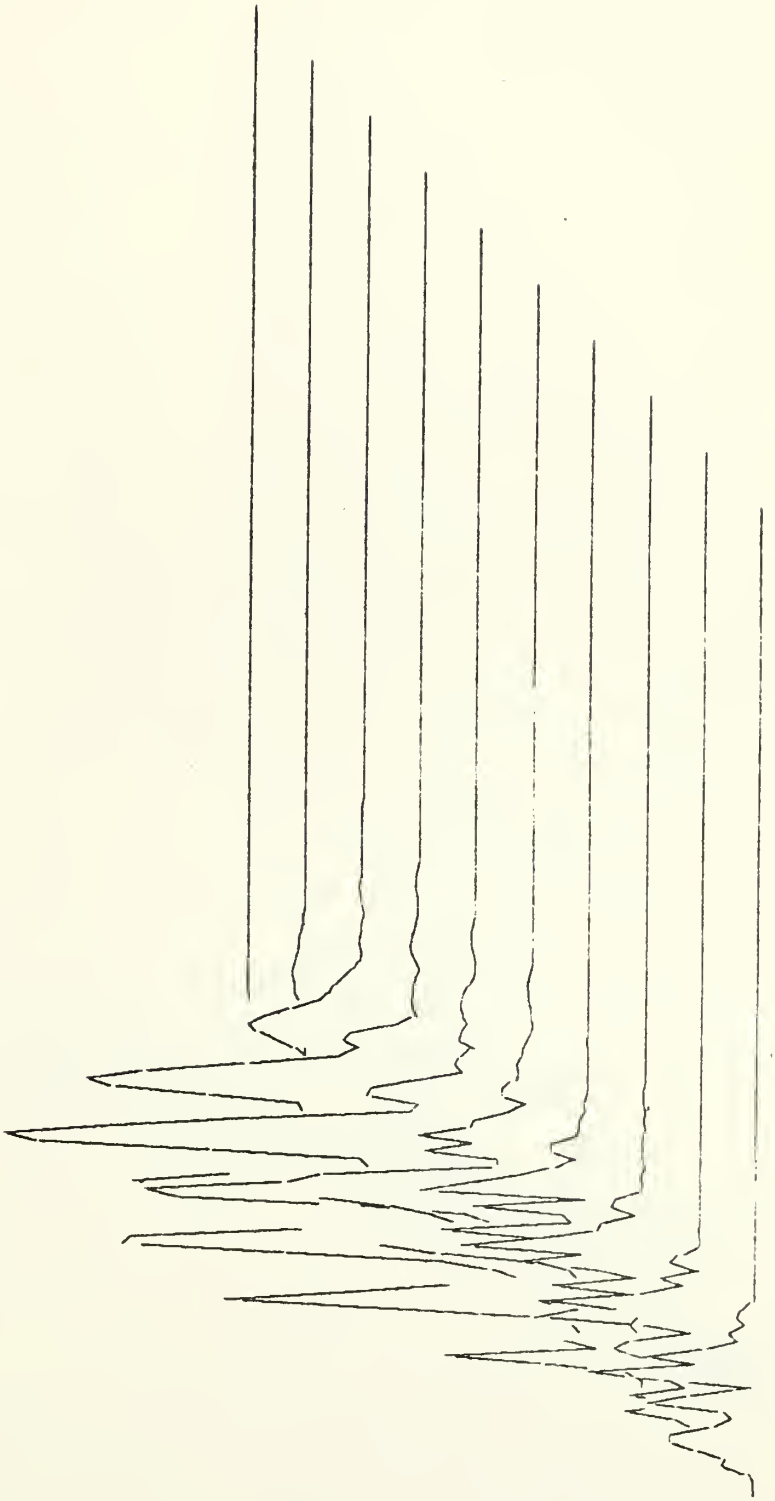


FIGURE 3

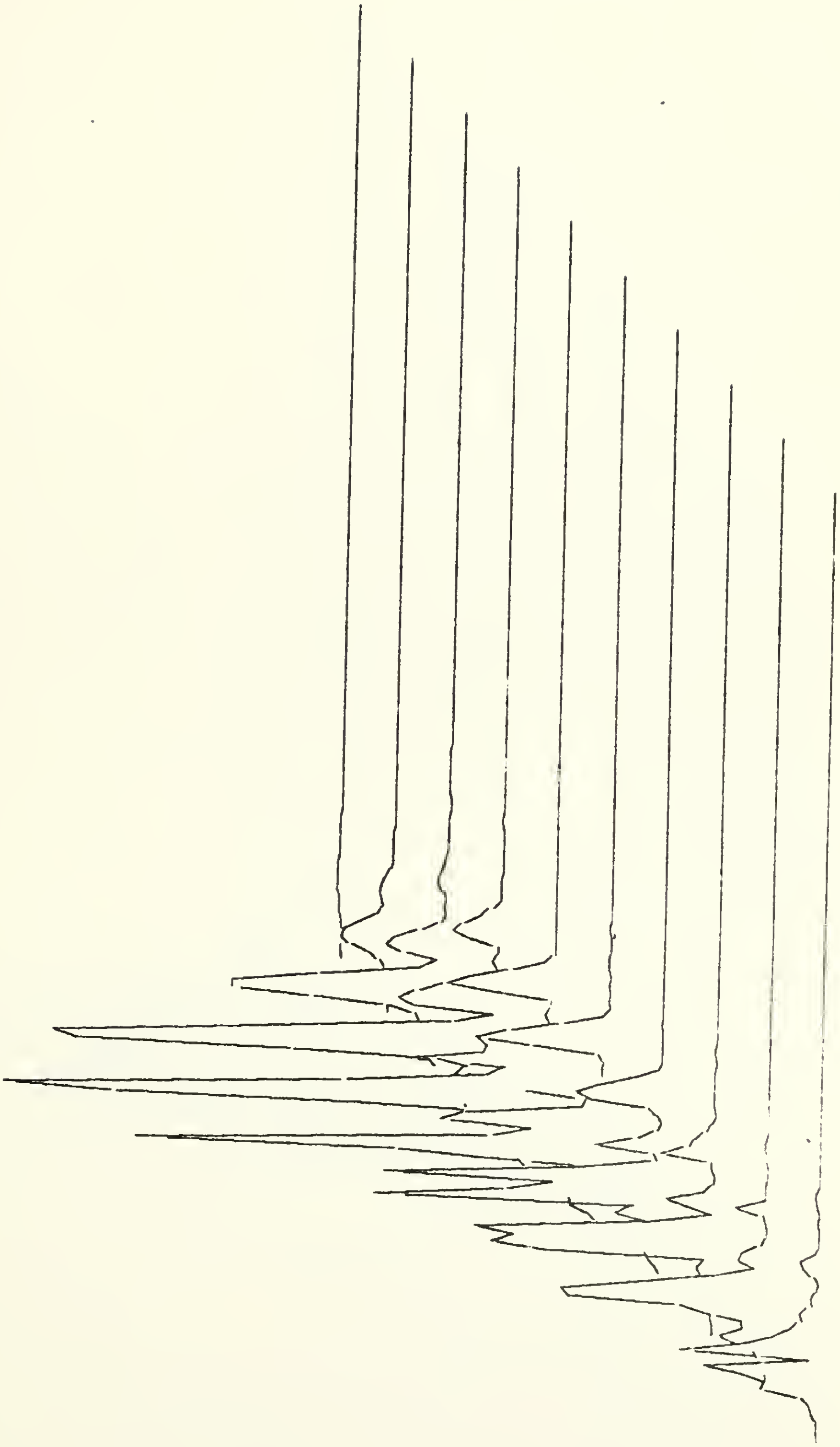


FIGURE 4

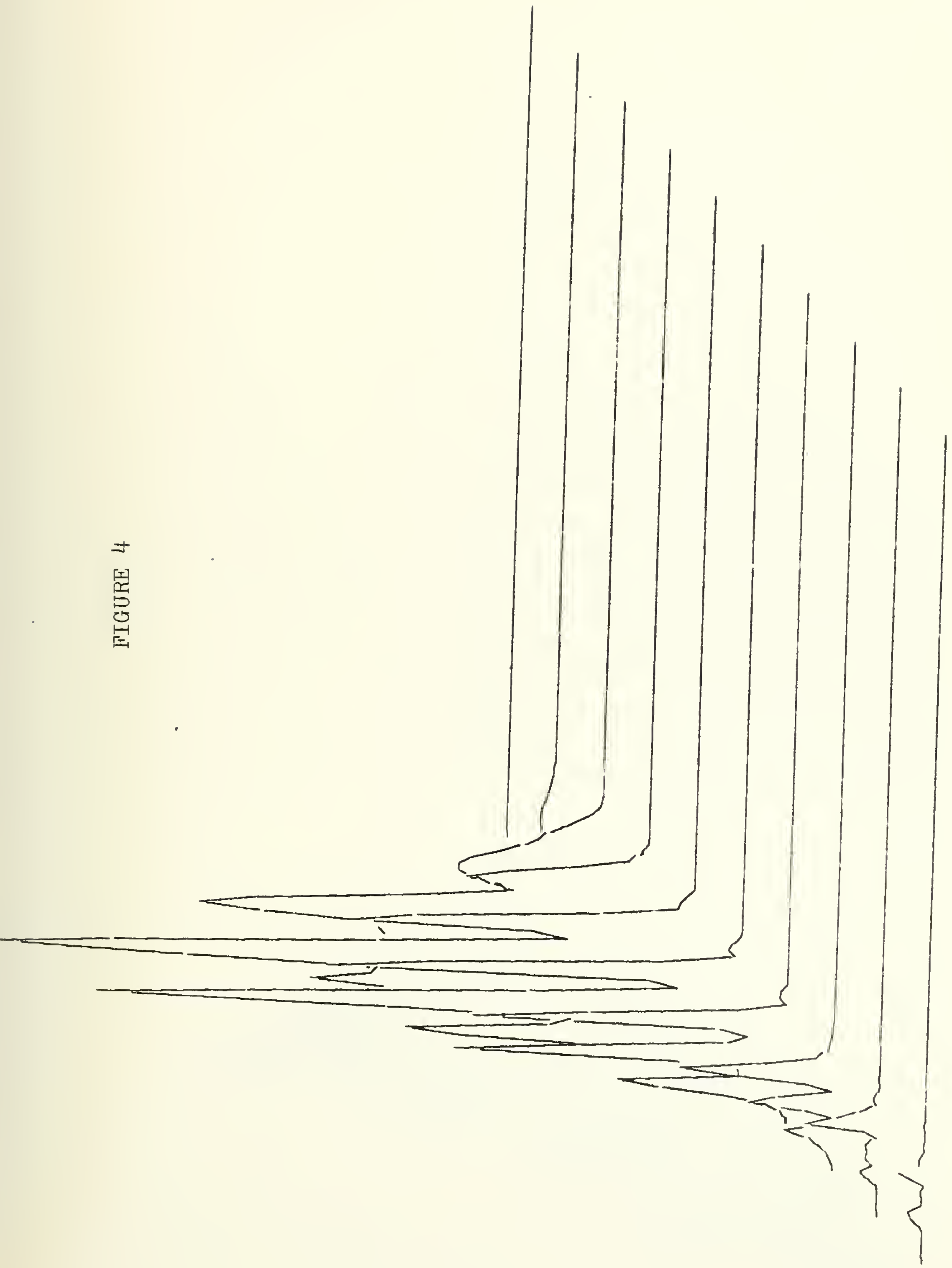


FIGURE 5

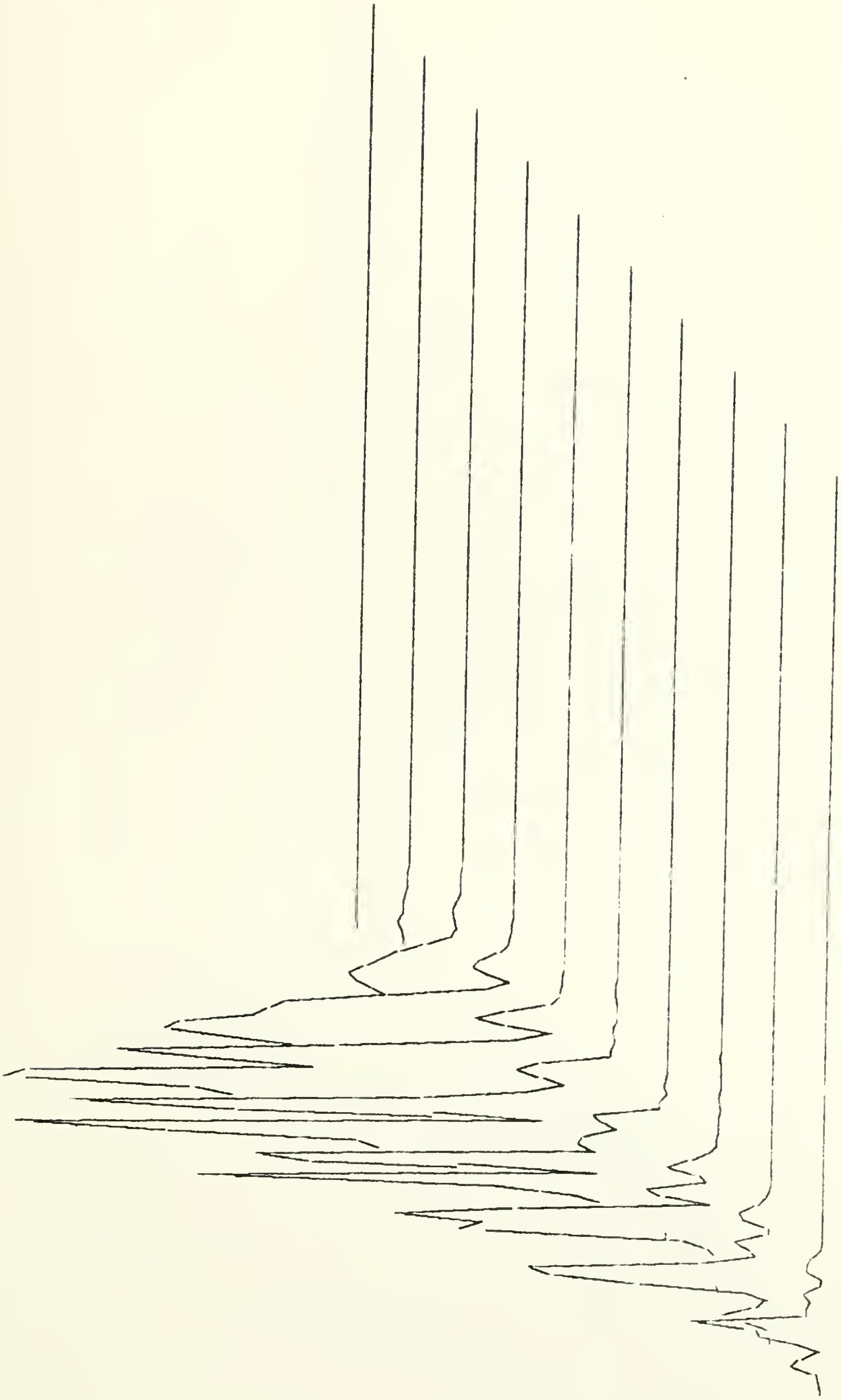


FIGURE 6

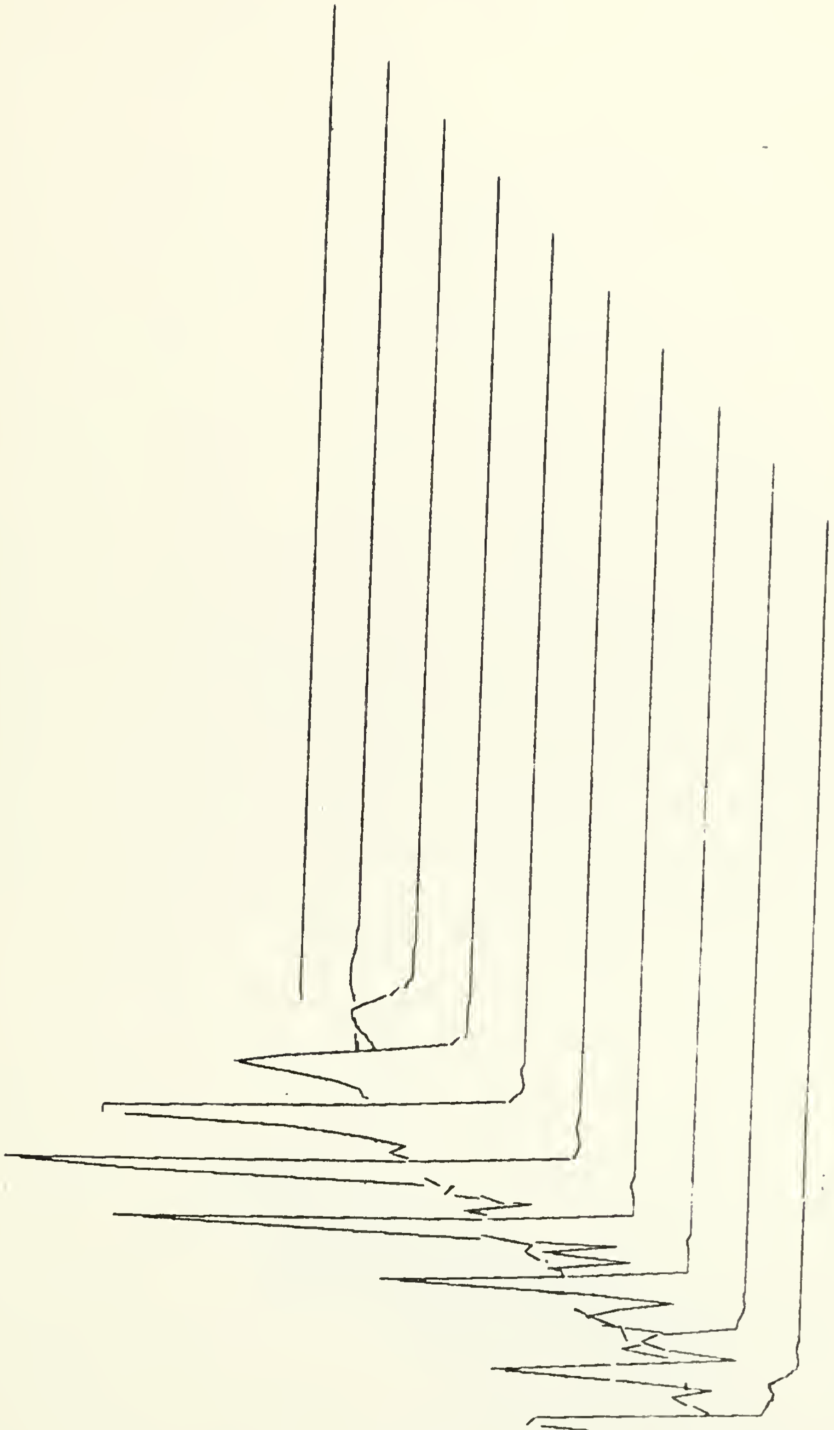
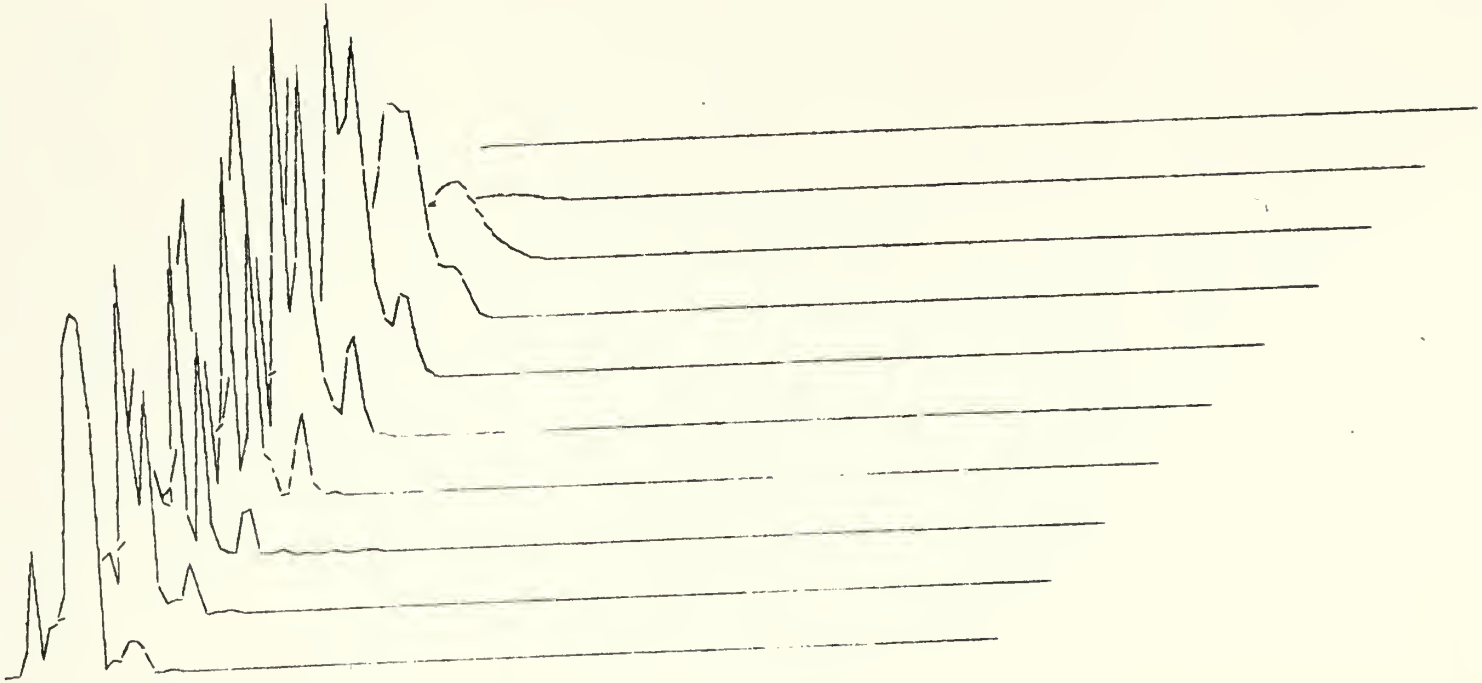


FIGURE 7



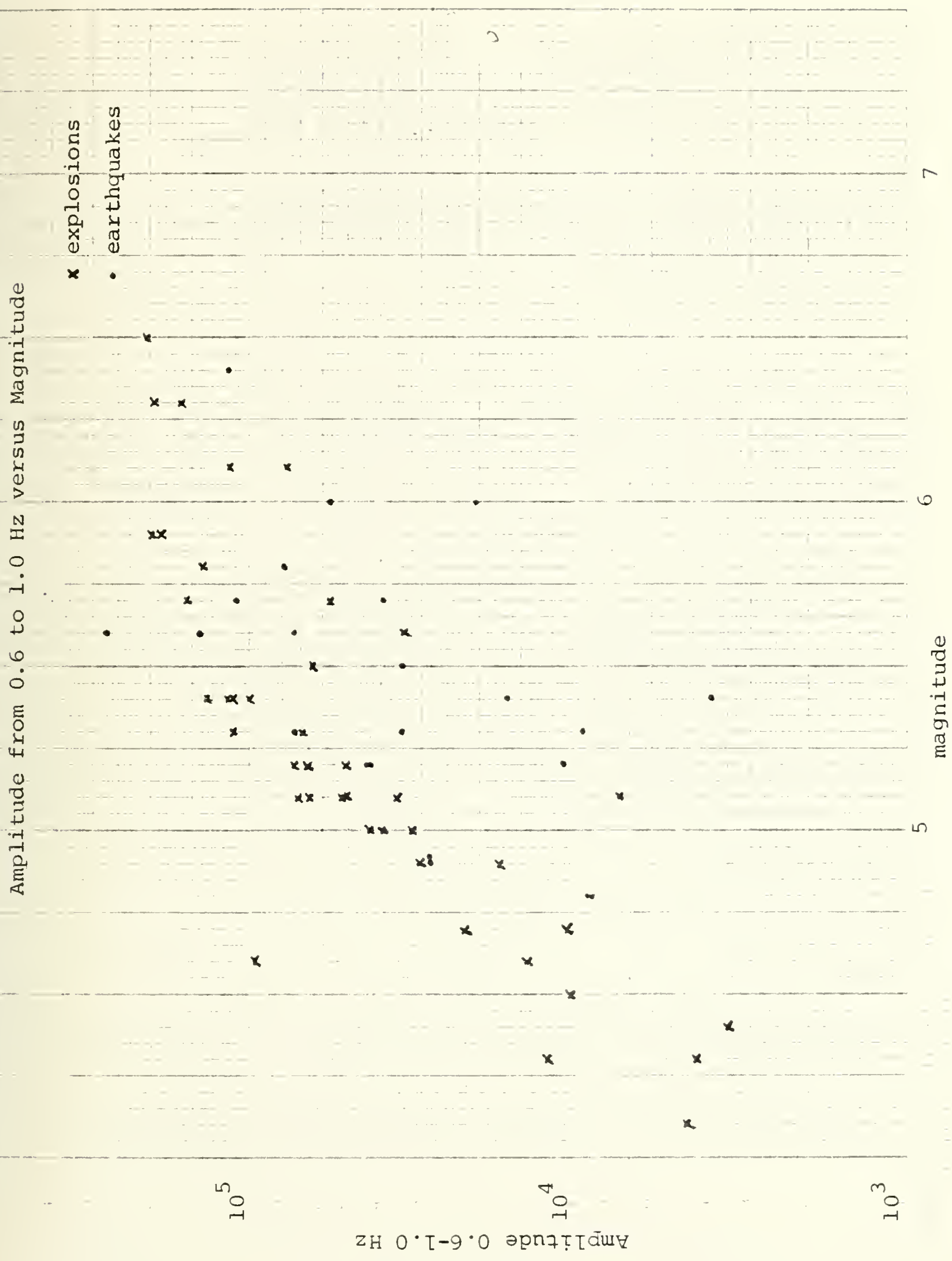

Amplitude from 0.6 to 1.0 Hz versus Magnitude
✖ explosions
• earthquakes
10^5
10^4
10^3
Amplitude 0.6-1.0 Hz
5
6
7
magnitude

FIGURE 8

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Dott, R.H., and Batten, R.L. 1976 Evolution of the Earth, 2nd ed., McGraw Hill, New York.

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Appendix A

Software

Digitally Simulated Oscilliscope

Designed to display the unprocessed seismic waveforms, the Digitally Simulated Oscilliscope or DSO program takes full advantage of the interactive features of the XDX 9300/AGT graphics system. With the capibility of handling up to ten seismograms simultaneously, its options are selected by using the function switches on the AGT-10 and include:

i. Namelist

The user is allowed to modify the value of any parameter specified as a namelist variable in the FORTRAN code. When this option is selected, a cursor appears on the AGT-10 screen. Using the AGT teletype, the operator types the name and value of the variable to be changed. Each character typed will appear on the screen. The line-edit facility provided by the AGT-10 system allows the user to modify the current line. When it is satisfactory, a carriage return signifies its completion. Several namelist parameters may be modified. When the operator is finised, a * carriage return will turn off the namelist option and normal program execution will resume.

ii. Timesweep

Because the maximum number of points that can be plotted in the x direction is limited to 200, it is

impossible to view most seismograms in their entirety and at a resolution of one sample point per plot point. The time sweep option allows the operator to inspect any time segment of a seismogram. There are several ways of exercising this option.

a. Coarse Timesweep

This allows the operator to use the control dials to sweep both forward and backward through selected seismograms rapidly.

b. Fine Timesweep

Similar to coarse timesweep, this option serves as a vernier. Again the control dials are used to position the time trace.

c. Autosweep

All seismograms will be swept in time simultaneously with this option. The timesweep is continuous until the option is turned off and it is possible to move either forward ro backward through time. Pointers assure that the display will not run off either end of the seismogram.

d. Single Sweep

Instead of sweeping continuously, this option is automatically turned off after completing one timesweep of the data. Again the user chooses to

sweep either forward or backward across the data.

iii. Amplitude Scaling

As an alternative to changing the data's scale factor through namelist, it is possible to use a control dial to modify the scaling of the data. This option will remain in effect until it is turned off by the user.

iv. Trigger

By using a combination of function switches and control dials, it is possible to set a positive or negative amplitude trigger level and to trigger either from the beginning of the data or from the current lead point of the data being displayed on the AGT-10. This allows the user to find large fluctuations in the data without inspecting the entire seismogram.

v. Timebase

It is possible to alter the displayed resolution of the data by varying the timebase with a control dial. An increase of resolution to ten points per seismogram is possible and, by an averaging process, the resolution can be decreased so that the entire seismogram just fills the screen.

vi. Spotlight

A moveable highlight is available so that the user

can accentuate interesting features of the display. Spotlighting is also useful when searching for interesting features since the operator is subconciously forced to pay more attention to the highlighted region.

I. DSO - Operating Summary

DSO may be used on a stand-alone basis or as a segment in a larger overlay job. To begin using DSO, the operator must transfer program control to DSO. This may be done by rerunning a core image of DSO from a save tape when using stand-alone DSO or, in the case of an overlay job, by setting appropriate flags in the control program. It is necessary to prepare the AGT-10 for DSO execution by calling the "GATED" graphics package.

The data tape, which has been prepared with the standard header records, is mounted on the appropriate drive (Unit 2).

Because there are many namelist variables which must be specified when running this program, it is convienent to prepare a card deck containing namelist input information. When the program requests input, instead of laboriously typing in all namelist parameters, the user types the following on the XDS 9300 teletype console:

```
ICARD = 1
c/r *
```

c/r

II. Function Switch Definitions

Once the program has been initialized, the AGT-10 console, function switches, and control dials are used for program control. Below are listed the function switch definitions. When control dials are to be used in conjunction with a particular function switch option, they have been indicated in parentheses.

3 - namelist input

This allows the operator to modify namelist parameters from the AGT-10 teletype console.

4 - dial overlay option

Since there are only six control dials and since a maximum of ten seismograms can be displayed simultaneously, this function switch allows the operator to use one control dial for more than one seismogram when the sweep option has been selected.

5 - coarse sweep (all dials)

Each seismogram can be swept individually in time and is governed by the control dials.

6 - fine sweep (all dials)

This serves as a vernier to the coarse sweep option. For both the coarse and fine sweep options, function

switch 10 is used to reverse direction.

7 - scaling (dial D)

As an alternative to namelist, amplitudes may be scaled manually.

8 - trigger (dial C)

The control dial is used to set the trigger level, for which there is a numeric display on the screen, and function switch 10 is used to change the sign of the trigger level.

9 - auto sweep

This option causes continuous time sweeping of all seismograms. Function switch 10 will reverse the direction of the sweep.

10 - sign option

Used in conjunction with function switches 5, 6, 8, 9, and 11, the sign of the timesweep direction or of the trigger amplitude becomes negative.

11 - auto sweep once

A single time sweep of all of the data is executed. The sweep direction is reversed by selecting function switch 10.

12 - span (dial C)

This option expands or contracts the timebase of the display.

13 - spotlight (dial A)

The control dial is used to position the spotlight at the desired location. When the function switch is turned off, the highlight will remain on and stationary.

14 - remove spotlight

This option turns off the spotlight.

16 - tape input

This function switch allows tape input of inverse FFT's. It was not extensively used in this project.

When several function switches are on simultaneously, a function switch precedence will cause certain options to be overridden. Switches 7, 6, and 5 are listed in decending order of precedence.

III. Control Parameters

The namelist variables are listed below. For each, the range and default value have been given in parentheses. 'I' has been used to indicate array variables all of which can have up to ten entries. Real variables are indicated by the use of decimal points.

A. Original Data Specifications:

NCH(1-?;2)	number of channels
MP(?;0;I)	maximum number of points on the seismogram

SR(?;20.0)	original sampling rate of data in samples/second
ITO(?,?,?;0,0,0;I)	start time of the data in hours, minutes, and seconds
IDGRAM(?;0;I)	seismogram identification number

B. Mechanical Data Specifications:

ICH(?;1)	channel to be displayed
LREC(1-1024;1024)	length of input record in words
DZONE(0-?;.008)	sensitivity of dials; as DZONE is decreased, the dials become more sensitive

C. Basic Display Specifications

NPT(1-200;200)	number of points to be displayed per line
BIAS(?;0;I)	bias for displayed data
SCL(?;10.0)	scale factor, this scale factor should be used for interactive modification
SF(?;65536)	scale factor for AGT-10 output
INT(1-10;1)	intensity of data display

MAXGM(1-10;10)	maximum number of seismograms that can be displayed
IW(0-1,1,I)	flags choosing which seismograms will be displayed 0-no display ; 1-display

D. Program Control Specifications

ITAPE(0-7;2)	input tape unit number
MTAPE(0-7;0)	rewind specified tape unit
IDEV(1-2;1)	AGT-10 number
ICARD(0-1;0)	read card input
INITL(0-1;0)	reinitialize program
KILL(0-1;0)	return to master program

E. Display Specifications

LP(1-MP;1;I)	lead point of displayed data
X0(?;-0.4)	location of X=0, coordinate and data display
Y0(?;-0.7)	location of Y=0, coordinate and data display
INCR(0-?;100)	lead point increment when using auto sweep
INC(0-?;0)	number of points skipped between each point displayed

F. Spot Display Specifications

IWIDE(1-10;10) width of spotlight in points

G. Trigger Control Specifications

MAXV(0-?;4096) maximum value of trigger level

IV. Example of a Change of Control Parameters

Initially the user has the following display:

1. 8 seismograms, numbered 1 through 8
2. INT = 1, the lowest possible intensity on the display
3. INC = 0, one data point per plot point on the screen

The parameters are to be changed to yeild the following:

1. 2 seismograms, numbers 5 and 7

   Type

   1. IW = 0,0,0,0,1,0,1,0,0,0

   or

   IW(1) = 0

   .

   .

   .

   IW(4) = 0

   IW(5) = 1

   IW(6) = 0

IW(7) = 1

IW(8) = 0

IW(9) = 0

IW(10) = 0

2. INT = 2, increase screen intensity

3. INC = 2, two data points are averaged to produce one plot point. (Function switch 12 could also have been used.)

```
*
*
*   PROJECT EARTHQUAKE
*
*   SUBTASK DSO - DIGITALLY SIMULATED OSCILLISCOPE
*
*
*
      JSW(I) = LAND(JW,LLS(1,23-I))
      JOFF(I)=LAND(JW,LXOR(-1,LLS(1,23-I)))
*
      INTEGER VBUF(400),XVER,YVER,DMVER
      INTEGER EVID
      DIMENSION Y(200,10),MD(200,10),IBUF(1024),IMAGE(2002),IMG(200,10),
     *          LP(10),IP(10),MP(10),IREC(10),NREC(10),LPD(10),
     *          DIALS(10),CDS(10),VDS(10),ITIME(3,10),IT0(3,10),IT(10),
     *          ITX(2),ITDIR(30),IGDIR(10),IMSPT(102),IMS(10,10),
     $          BIAS(10), ICOR(24),IDGM(10),IDGRAM(10),ITXA(6), IW(10)
*
      EQUIVALENCE (IMAGE(2),IMG), (IMSPT(2),IMS)
      EQUIVALENCE (XO,X0),(YO,Y0)
      EQUIVALENCE (MD,IBUF)
*
      NAMELIST     NCH,ICH,LREC,SR,NPT,IWIDE,BIAS,ITAPE,MTAPE,
     1          IDEV,LP,MP,X0,Y0,IT0,SCL,ICARD,INCR,DZONE,SF,INITL
     I          ,INC,MAXV,INT,MAXGM,IDGRAM,IW,NSKIP, IDELT
      NAMELIST KILL
      NAMELIST NFILE
      NAMELIST EVID
*
      DATA NULL/-1/,LREC/1024/,MAXV/4096/,DZONE/.0080/,IDEV/1/,
     *     ITAPE/2/,IWIDE/10/,X0/-0.4/,Y0/-.7/,SR/20./,SCL/10./,NPT/200/,
     *     ,INC/0/,INT/1/,INTSP/10/,DX/0.007/,INCR/100/,SF/65536/
     *     ,ICURS/0/,NSKIP/0/,IDELT/128/
      DATA KILL/0/
      DATA NFILE/0/
      DATA EVID/0/
*
      INTEGER TRL
C
C     PARAMETER  INPUT
C
   10 INITL = 1
      ITADD = 0
      OUTPUT(102) 'PARAMETER  INPUT'
      INPUT(101)
   20 IF(ICARD .EQ. 1) ICARD = 0 ; INPUT(5)
      IF(INITL .EQ. 0) GO TO 100
   30 CALL INIT
      IF(NFILE .LE. 0) GO TO 32
```

```
      CALL FORSCN(ITAPE,NFILE)
      NFILE = 0
32    CONTINUE
C
C     READ INPUT TAPE
C
   31 INITL = 0
      DO 90 I = 1,NGM
      MREC = 0
      DO 35 N = 2,I
   35 MREC = MREC + NREC(N-1)
      IFILE = 10 + MREC
      DO 90 J = 1,NCH
      IF(J .NE. ICH) GO TO 60
*
*     READ IN RECORDS OF CHANNEL TO BE DISPLAYED AND STORE ON DRUM
*
      DO 50 K = 1,NREC(I)
      CALL BININ(ITAPE,IBUF,LREC,IND)
      IF(IND .EQ. 1) STOP
      CALL WRITE(IFILE, IBUF,LREC)
   50 IFILE = IFILE + 1
      GO TO 90
*
*     READ THROUGH RECORDS OF THE CHANNELS TO BE SKIPPED
*
   60 DO 80 K = 1,NREC(I)
      CALL BININ(ITAPE,IBUF,1,IND)
      IF(IND .EQ. 1) GO TO 10
   80 CONTINUE
   90 CONTINUE
C
C     SETUP DISPLAY BUFFER
C
      IFLD = 1
*
*     COMPUTE THE RECORD IN WHICH THE CURRENT LEAD POINT IS LOCATED
*     THE LEAD POINT IS THE IP-TH POINT OF THE RECORD
*
  100 DO 110 I = 1,NGM
      IREC(I) = LP(I) / LREC
      IP(I) = LP(I) - IREC(I)*LREC
  110 IF(IP(I) .EQ. 0) IP(I) = LREC
C
      I = 0
      DO 160 IJK = 1,MAXGM
      IF(IW(IJK) .EQ. 0) GO TO 160
      I = I + 1
      IF(ISCL .NE. 0) GO TO 101
      IF(LP(I) .EQ. LPD(I)) GO TO 160
```

```
  101 MREC = 0
      DO 115 N = 2,IJK
  115 MREC = MREC + NREC(N - 1)
      IFILE = 10 + IREC(I) + MREC
      CALL READD(IFILE, IBUF, LREC)
      LPD(I) = LP(I)
      DO 130 J = 1,NPT
*
*     IF THE CURRENT POINT EXCEEDS THE BOUNDS OF THE GRAM, STUFF ZEROS
*     IN THE REMAINDER OF THE DISPLAY BUFFER
*
      IF(LP(I) + (J-1)*(INC+1) .GT. MP(I)) GO TO 155
      IR = IP(I) + (J-1)*(INC+1)
*
*     MUST GO TO THE NEXT RECORD
*
      IF(IR.GT.LREC)IP(I)=IR-LREC;GO TO 140
      Y(J,I) = IBUF(IR)*SCL/SF
  130 CONTINUE
      GO TO 160
  140 IFILE = IFILE + 1
*
*     TEST TO SEE IF ALL DATA HAS BEEN EXHAUSTED, IF SO, STUFF ZEROS INT
*     THE REMAINDER OF ITS OUTPUT ARRAY
*
      IF(IFILE .GE. MREC + 10+ NREC(I)) GO TO 155
      CALL READD(IFILE, IBUF, LREC)
      DO 150 K = J,NPT
      IR=IP(I)+(K-J)*(INC+1)
*
*     MUST GO TO THE NEXT RECORD
*
      IF(IR.GT.LREC)J=K;IP(I)=IR-LREC;GO TO 140
  150 Y(K,I) = IBUF(IR)*SCL/SF
      GO TO 160
*
*     STUFF ZEROS INTO THE REMAINDER OF THE GRAPHICS ARRAY
*
  155 DO 156 JJ = J,NPT
  156 Y(JJ,I) = 0.0
  160 CONTINUE
      ISCL = 0
C
C     DISPLY BUFFER
C
      IF(IFLD .EQ. 0) GO TO 165
      CALL TIMETX
      CALL REMOVE
      CALL DSPLY
  165 IF(KSFLG .EQ. 0) GO TO 170
```

```
      IF(KSPT .NE. 0) CALL SPØT
      KSPT = 0
  170 CØNTINUE
C
C     SENSE FUNCTIØN SWITCH ØPTIØN
C
C     FUNCTIØN SWITCH ASSIGNMENT
C     3  NAMELIST INPUT
C     4  DIAL ØVERLAY ØPTIØN
C     5  TIME SWEEP - CØARSE  - ALL DIALS
C     6  TIME SWEEP  -  VERNIER  -  ALL DIALS
C     7  AMPLITUDE SCALING  -  DIAL 4
C     8  TRIGER  -  DIAL 3
C     9  AUTØ SWEEP
C     10  DIRECTIØN ØF SWEEP
C     11  SINGLE SWEEP
C     12  TIME BASE  -  DIAL 3
C     13  SPØTLIGHT  -  DIAL 1
C     14 REMØVE SPØTLIGHT
C     15  TRIGGER FRØM CURRENT LP
C     16   ADVANCE TAPE ØR REVERSE TAPE IF FN SWITCH 10 IS ØN
C
  200 CALL FNS(IDEV,ISW,IER)
      IF(IER .NE. 0) ØUTPUT(102) IER,'ISW'
      JW = LXØR(JW,ISW)
      LB = NGM + 3
      DØ 220 I = 3,16
      IF(JSW(I) .EQ. 0) GØ TØ 220
      ENCØDE(4,210,ITX) I
  210 FØRMAT(I2)
      CALL TEXTØ(IDEV,ITX,1,LB,1,1,3,IER)
      IF(IER .NE. 0) ØUTPUT(102) IER,'SW'
      LB = LB + 1
  220 CØNTINUE
      DØ 230 I = LB, NGM + 16
      CALL TEXTØ(IDEV,NULL,1,I,1,1,3,IER)
      IF(IER .NE. 0) ØUTPUT(102) IER,'NUL'
  230 CØNTINUE
      CALL VCD(IDEV,DIALS, IER)
      IF(IER .NE. 0) ØUTPUT(102) IER,'VCD'
C
      IFLD = 1
*
*     TEST FØR NAMELIST INPUT
*
  300 IF(JSW(3) .EQ. 0) GØ TØ 310
      IB = NGM + 17
      CALL GINPUT(IDEV, ITDIR,IB)
      CALL PAR
      JW = JØFF(3)
```

```
      IF(MTAPE .NE. 0) CALL RWND(MTAPE); MTAPE = 0
      IF(ICARD .EQ.1) GO TO 20
      IF(INITL .EQ. 1) GO TO 30
*
*     IF THE NUMBER OF GRAMS TO BE DISPLAYED HAS BEEN CHANGED, REINITIAL
*
      IF(LSTNGM .NE. NGM) CALL INIT
      KSPT=1
      GO TO 100
*
*     EXERCISE VARIOUS FUNCTION SWITCH OPTIONS
*
  310 IF(JSW(5) .NE. 0) CALL COARSE; GO TO 100
      IF(JSW(6) .NE. 0) CALL VERNIER; GO TO 100
      IF(JSW(7) .NE. 0) CALL SCALE; GO TO 100
      IF(JSW(8) .NE. 0) CALL TRIGER; JW = JOFF(8); GO TO 100
      IF(JSW(9) .NE. 0) CALL AUTO; GO TO 100
      IF(JSW(11).NE. 0) CALL AUTO; JW=JOFF(11); GO TO 100
      IF(JSW(12).NE. 0) CALL SPAN; GO TO 100
      IF(JSW(13) .NE. 0) KSPT = 0; CALL SPOT; GO TO 100
      IF(JSW(14) .NE. 0)CALL SPOT;JW=JOFF(14); GO TO 100
      IF(JSW(15) .NE. 0) CALL VERSA; JW=JOFF(15)
      IF(JSW(16) .NE. 0) CALL TAPEIP;JW=JOFF(16); GO TO 31
      GO TO 200
*
*
*
      SUBROUTINE SCALE
      IF(ABS(DIALS(4) - SCLD) .LT. DZONE) IFLD = 0; RETURN
      SCLD=DIALS(4)
      SCL=(1.0+SCLD)*10.0
      DO 10 I=1,NGM
   10 LPD(I) = -1
      KSPT = 1
      RETURN
*
*
*
      SUBROUTINE TRIGER
      ISGN = 0
*
*     OPTION FOR NEGATIVE TRIGGER LEVEL
*
      IF(JSW(10) .NE. 0) ISGN = -1
*
*     MAXV IS THE UPPER LIMIT OF THE TRIGGER LEVEL
*
      TRL =(DIALS(3) +1)*MAXV/2
      TRL = ISIGN(TRL,ISGN)
      I = 0
```

```
      DØ 30 IJK = 1,MAXGM
      IF(IW(IJK) .EQ. 0) GØ TØ 30
      I = I + 1
      MREC=0
      IRT = 1
      IST = 1
*
*     ØPTIØN TØ TRIGGER FRØM CURRENT LEAD PØINT
*
      IF(JSW(15) .NE. 0) IST=IREC(I) + 1; IRT=LP(I)-IREC(I)*LREC
      DØ 10 J = 2,IJK
   10 MREC = MREC + NREC(J-1)
      DØ 25 K = IST,NREC(I)
      IFILE=10+MREC  + (K-1)
      CALL READD(IFILE,IBUF,LREC)
      DØ 20 L = IRT,LREC
      KK=LREC*(K-1)+L
      IF((IBUF(L) .LT. 0) .AND. (TRL .LT. 0)) GØ TØ 15
      IF(IBUF(L) .LT. 0) GØ TØ 20
      IF(TRL .LT. 0) GØ TØ 20
*
*     PØSITIVE TRIGGER LEVEL
*
      IF((IBUF(L) - TRL) .GE. 0) LP(I) = KK; GØ TØ 30
      GØ TØ 20
*
*     NEGATIVE TRIGGER LEVEL
*
   15 IF((IBUF(L) - TRL) .LE. 0) LP(I) = KK; GØ TØ 30
20    CØNTINUE
      IRT = 1
   25 CØNTINUE
*
*     IF NØ TRIGGER LEVEL IS FØUND, SET THE LEAD PØINT EQUAL TØ THE LAST
*     PØINT ØF THE GRAM
*
      LP(I) = MP(I)
   30 CØNTINUE
      ENCØDE(8,100,ITX)TRL
100   FØRMAT(I8)
      CALL  TEXTØ(IDEV,ITX,2,1,92,1,3,IER)
      IF(IER.NE.0)ØUTPUT(102)IER,'TRL'
      KSPT = 1
  200 RETURN
*
*
*
      SUBRØUTINE CØARSE
      IF(JSW(6) .NE. 0) CALL VERNIER; RETURN
      IF(JSW(7) .NE. 0) CALL SCALE; RETURN
```

```
      IFLD = 0
      N1=NGM
      N2=0
      IF(NGM.GT.6)N1=6;N2=NGM-6
      IF(JSW(4).NE.0)GØ TØ 20
*
*     CØMPUTATIØN FØR LINES 1 TØ 6
*
      DØ 10 I=1,N1
      IF(ABS(DIALS(I) - CDS(I)) .LT. DZØNE) GØ TØ 10
      CDS(I)=DIALS(I)
*
*     THE RANGE ØF THE LEAD PØINT IS LIMITED BY THE TØTAL NUMBER ØF
*     PØINTS IN THE GRAM
*
      LP(I) = (1.0 + DIALS(I)) * MP(I)/2
*
*     INSURE DISPLAY AND SPØTLIGHT UPDATE
*
      IFLD = 1
      KSPT = 1
10    CØNTINUE
      RETURN
*
*     CØMPUTATIØN FØR LINES 7 TØ 10
*
20    DØ 30 I=1,N2
      IF(ABS(DIALS(I) - CDS(I+6)) .LT. DZØNE) GØ TØ 30
      CDS(I+6)=DIALS(I)
      LP(I+6) = (1.0 + DIALS(I))*MP(I+6)/2
*
*     INSURE DISPLAY AND SPØTLIGHT UPDATE
*
      KSPT = 1
      IFLD = 1
30    CØNTINUE
      RETURN
*
*
*
      SUBRØUTINE VERNIER
      IFLD = 0
      N1=NGM
      N2=0
      ISGN = 1
*
*     ØPTIØN TØ GØ BACKWARDS
*
      IF(JSW(10) .NE. 0) ISGN = -1
      IF(NGM.GT.6)N1=6;N2=NGM-6
```

```
      IF(JSW(4).NE.0)GO TO 20
*
*     COMPUTATION FOR LINES 1 TO 6
*
      DO 10 I=1,N1
      IF(ABS(DIALS(I) - VDS(I)) .LT. DZONE) GO TO 10
      VDS(I) = DIALS(I)
      LP(I) = LP(I) + (1.0 + DIALS(I))*NPT*ISGN/2
      IF(LP(I) .LT. 1) LP(I) = 1
*
*     INSURE DISPLAY AND SPOTLIGHT UPDATE
*
      KSPT = 1
      IFLD = 1
10    CONTINUE
      RETURN
*
*     COMPUTATION FOR LINES 7 TO 10
*
20    DO 30 I=1,N2
      IF(ABS(DIALS(I) - VDS(I+6)) .LT. DZONE) GO TO 30
      VDS(I+6)=DIALS(I)
      LP(I+6) = LP(I+6) + (1.0 + DIALS(I))*NPT*ISGN/2
      IF(LP(I+6) .LT. 1) LP(I+6) = 1
*
*     INSURE DISPLAY AND SPOTLIGHT UPDATE
*
      KSPT = 1
      IFLD = 1
30    CONTINUE
      RETURN
*
*
*
      SUBROUTINE AUTO
      ISGN=0
*
*     OPTION TO GO BACKWARDS
*
      IF(JSW(10).NE.0)ISGN=-1
      DO 10 I=1,NGM
*
*     INCREMENT EACH LEAD POINT BY +/- INCR, REMAINING WITHIN THE
*     LIMITS OF THE TOTAL NUMBER OF POINTS IN THE GRAM
*
      LP(I)=LP(I)+ISIGN(INCR,ISGN)
      IF(LP(I) .LT. 1) LP(I) = 1
      IF(LP(I) .GT. MP(I)) LP(I) = MP(I)
   10 CONTINUE
      KSPT = 1
```

```
      RETURN
*
*
*
      SUBRØUTINE SPAN
      IF(ABS(DIALS(3) - SPN) .LT. DZØNE) IFLD = 0;RETURN
      SPN = DIALS(3)
      IF(SPN .LE. 0) GØ TØ 20
*
*     EXPAND THE GRAM
*
   10 NPT = (1-SPN)*200
      IF(NPT .LT. 10) NPT = 10
      DX = 1.4/NPT
      INC = 0
      GØ TØ 30
*
*     CØNTRACT THE GRAM
*
   20 INC = (ABS(SPN))*MPMX
      DX = 0.007
      NPT = 200
*
*     NUMBER ØF SECØNDS BEING DISPLAYED ØN THE GRAPH
*
   30 S = (NPT/SR)*(INC+1)
   35 ENCØDE(8,100,ITX) S
  100 FØRMAT(F8.2)
      CALL TEXTØ(IDEV,ITX,2,2,92,1,3,IER)
      IF(IER .NE. 0) ØUTPUT(102) IER,'SPAN'
      DØ 200 I = 1,NGM
*
*     CHANGE LPD TØ INSURE THAT THE DISPLAY WILL BE UPDATED
*
  200 LPD(I) = 0
      KSPT = 1
      RETURN
*
*
*
      SUBRØUTINE TIMETX
      DØ 20 NM = 1,NGM
      I = NGM - (NM -1)
*
*     CØMPUTE THE TIME ØF THE FIRST PØINT ØN EACH SEISMØGRAM
*
      K = IT(I) + LPD(I)/SR
*
*     IF THE SPØTLIGHT IS ØN, DISPLAY THE TIME AT ITS MIDPØINT
*
```

```
      IF(ICURS .NE. 0) K = K + (INC+1)*(SPTA +(IWIDE/2))/SR
      ITIME(1,I) = K /3600
      ITIME(2,I) = (K-ITIME(1,I)*3600)/60
      ITIME(3,I) = K - ITIME(1,I)*3600 - ITIME(2,I)*60
*
*     AMPLITUDE IS GIVEN FOR THE FIRST POINT ON EACH LINE
*
      IAMP = Y(1,I)*(SF/SCL)
      ENCODE(24,100,ITXA) IDGM(I),ITIME(1,I),ITIME(2,I), ITIME(3,I),IAMP
  100 FORMAT(A4,'   ',I2,' ',I2,' ',I2,'    ',I5,' ')
      CALL TEXTO(IDEV,ITXA,6,NM,1,1,3,IERROR)
      IF(IERROR .NE. 0) OUTPUT(102) IERROR,'TXO'
   20 CONTINUE
      RETURN
*
*
*
C     A SUBROUTINE TO DISPLAY GRAPHICAL DATA
C     CALLS  IHEAD, IPACK,GRAPHO
C
      SUBROUTINE DSPLY
      IMAGE(1) = IHEAD(0,INT)
      L = NPT*NGM + 2
      MKZO = LSTNPT - NPT
      DO 15 I = 1,NGM
      K = (I - 1)*NPT + 1
*
*     COMPUTE THE VERTICLE SPACING OF EACH LINE
*
      YV = YO + (I-1)*DY
      DO 10 J = 1,NPT
      XIM = XO + DX*(J - 1)
      YIM = YV + Y(J,I) - BIAS(I)
      IF(J.NE. 1) GO TO 9
*
*     MAKE THE FIRST POINT ON EACH LINE A DRAW
*
      IMAGE(K+J) = IPACK(XIM,YIM,0)
      GO TO 10
    9 IMAGE(K+J) = IPACK(XIM,YIM,MD(J,I))
   10 CONTINUE
   15 CONTINUE
      IMAGE(L) = 0
*
*     PUT ZEROS IN THE UNUSED PORTION OF THE ARRAY
*
      DO 20 I = 1,MKZO*NGM
   20 IMAGE(L+I) = 0
      CALL GRAPHO(IDEV, IMAGE,L, 1, IER)
      IF(IER .NE. 0) OUTPUT(102) IER,'GPO'
```

```
      LSTNPT = NPT
      RETURN
C
C
C
      SUBRØUTINE SPØT
      ICURS = 1
      IF(JSW(14) .NE. 0) ICURS = 0; GØ TØ 15
*
*     WHEN THE KSPT FLAG IS ØN, THE SPØT WILL BE UPDATED;  HØWEVER,
*     THE AGT DIALS WILL NØT BE READ
*
      IF(KSPT .NE. 0) GØ TØ 9
*
*     READ THE AGT DIALS
*
      IF(ABS(DIALS(1) - SPT) .LT. DZØNE) IFLD = 0; RETURN
      SPT = DIALS(1)
      SPTA = (DIALS(1) + 1)*NPT
      SPTB = SPTA + IWIDE
      IF(SPTB .LE. NPT) GØ TØ 5
      SØV = SPTB - NPT
      SPTA = SPTA - SØV
    5 CØNTINUE
C
C     WITH -1<DIALS<+1 GET NUMBER ØF LEAD SPØT PØINT
C
    9 IMSPT(1) = IHEAD(0,INTSP)
      L = IWIDE* NGM + 2
      DØ 10 I = 1,NGM
      K = (I-1)*NPT + 1 + SPTA
      DØ 10 J = 1,IWIDE
      IMS(J,I) = IMAGE(K+J)
*     FØR EACH SEISMØGRAM, MAKE THE FIRST PØINT ØF THE SPØT A MØVE.
*     ALL SUBSEQUENT PØINTS WILL BE DRAWS
      IF(J .EQ. 1) IMS(J,I) = LAND(77777776B,IMS(J,I))
   10 CØNTINUE
      IMSPT(L) = 0
      KSFLG = 1
      GØ TØ 17
*
*    ZERØ THE SPØTLIGHT ARRAY, THUS MAKING EACH PØINT A MØVE
*
   15 DØ 16 I = 1,NGM
      DØ 16 J = 1,IWIDE
   16 IMS(J,I) =0
      K = NGM*IWIDE + 1
      IMSPT(K) = 0
      IMSPT(K+1) = 0
      KSFLG = 0
```

```
   17 CØNTINUE
      KSPT = 0
      CALL GRAPHØ(IDEV,IMSPT,L,3,IERRØR)
      IF(IERRØR .NE. 0) ØUTPUT(102) IERRØR,'GSØ'
      CALL TIMETX
      IFLD = 0
      RETURN
C
C
C
      SUBRØUTINE CØØRD
      ICØR(1) = IHEAD(1,INT)
C
C     PLØT Y AXIS
C
      ICØR(2) = IPACK(XØ,YØ,0)
      YCØR = YØ + 1.4
      ICØR(3) = IPACK(XØ,YCØR,1)
C
C     PLØT X AXES
C
      DØ 10 I = 1,NGM
      XCØR = XØ + 1.4
      YCØR = YØ + (I-1)*DY
      K = (I-1)*2 + 4
      ICØR(K) = IPACK(XØ,YCØR,0)
   10 ICØR(K+1) = IPACK(XCØR,YCØR,1)
      ICØR(K+2) = 0
      CALL GRAPHØ(IDEV,ICØR,K+2,2,IERRØR)
      IF(IERRØR .NE. 0) ØUTPUT(102) IERRØR,'CØR'
      RETURN
C
C
C
C
C
C
      SUBRØUTINE INIT
      CALL PAR
      DØ 10 I = 1,MAXGM
      IT(I) = IT0(3,I) + 60*(IT0(2,I)+60*IT0(1,I)) + IDELT*(I-1)
      LP(I) = 1
      LPD(I) = 0
      CDS(I) = 0
      VDS(I) = 0
      BIAS(I) = 0.0
      DØ 10 J = 1,NPT
   10 Y(J,I) = 0.0
      CALL DTINIT(IDEV, ITDIR, 30,IER)
      IF(IER .NE. 0) ØUTPUT(102) IER,'DTIN'
```

```
      CALL TIMETX
      CALL DGINIT(IDEV,IGDIR,10,IER)
      IF(IER .NE. 0) OUTPUT(102) IER,'DGIN'
      CALL DSPLY
      TRL = 0
      ENCODE(8,20,ITX) TRL
   20 FORMAT(I8)
      CALL TEXTO(IDEV,ITX,2,1,92,1,3,IER)
      IF(IER .NE. 0) OUTPUT(102) IER,'ITRL'
      S = NPT*(INC+1)/SR
      ENCODE(8,30,ITX) S
   30 FORMAT(F8.2)
      CALL TEXTO(IDEV,ITX,2,2,92,1,3,IER)
      IF(IER .NE. 0) OUTPUT(102) IER,'ISPAN'
      LSTNPT = LSTWID = 0
      LSTNGM = NGM
      CALL COORD
      MPMX = MP(1)
      DO 40 I = 2,NGM
   40 IF(MP(I) .LT. MPMX) MPMX = MP(I)
      MPMX = (MPMX/NPT) - 1
      RETURN
C
C
C
      SUBROUTINE PAR
      NGM = 0
*
*     COUNT THE NUMBER OF GRAMS AND THE NUMBER OF RECORDS PER GRAM
*
      DO 10 I = 1,MAXGM
    5 NGM = NGM + IW(I)
      NREC(I) = MP(I)/LREC
   10 IF(MP(I) .GT. NREC(I)*LREC) NREC(I) = NREC(I) + 1
      I = 0
      DO 20 IJK = 1,MAXGM
      IF(IW(IJK) .EQ. 0) GO TO 20
      I = I + 1
   20 IDGM(I) = IDGRAM(IJK)
      DX = 1.4/NPT
      DY = 1.4/NGM
      IF(SCL .NE. SCLSAV) SCLSAV = SCL; ISCL = 1
      IF(SF .NE. SFSAV) SFSAV = SF; ISCL = 1
      RETURN
C
C
C
C
      SUBROUTINE REMOVE
*
```

```
*     REMØVE HIDDEN LINES FRØM GRAPHICS DISPLAY
*
      DØ 10 I = 1,NGM
      DØ 10 J = 1,NPT
   10 MD(J,I) = 1
      DØ 100 I = 1,NGM-1
      DØ 100 J = 1,NPT
      DØ 100 N = I+1,NGM
      IF(MD(J,N) .EQ. 0) GØ TØ 100
      IF(   (Y(J,I)-BIAS(I)).GT.(    (Y(J,N)-BIAS(N))+DY*(N-I))) MD(J,N)=
     1 0
  100 CØNTINUE
      RETURN
C
C
C
      SUBRØUTINE TAPEIP
      IXFDEL = NGM*IDELT
      KSPT=1
      IFLD= 1
      ISGN = 1
      IF(JSW(10).EQ.0) GØ TØ 20
      ISGN = -1
      DØ 10 K = 1,2
      DØ 10 I = 1,NGM
      DØ 10 J = 1,NREC(I)
   10 CALL BAKREC(ITAPE,1)
   20 DØ 30 I = 1,NGM
      LPD(I) = 0
   30 IT(I) = IT(I) + ISIGN(IXFDEL,ISGN)
      RETURN
C
      SUBRØUTINE VERSA
      IF(JSW(10) .NE. 0) CALL WEØF(4,0); RETURN
      DØ 10 I = 1,400
10    VBUF(I) = 0
      VBUF(1) = NPT
      VBUF(2) = NGM
      VBUF(3) = SF
      VBUF(4) = ITIME(1,1)
      VBUF(5) = ITIME(2,1)
      VBUF(6) = ITIME(3,1)
      VBUF(8) = EVID
      DØ 15 I = 1,NGM
15    VBUF(9+I) = Y(1,NGM-(I-1))
      CALL BINØUT(1,VBUF,400,IND)
      DØ 30 J = 1,NGM
      DØ 20 I = 1,NPT
      CALL UNPACK(IMAGE(1+(J-1)*NPT+I),XVER,YVER,DMVER)
      VBUF(I*2-1) = XVER
```

```
      YVER = LIBR(LAND(YVER,077777776B),DMVER)
20    VBUF(I*2) = YVER
30    CALL BINBUT(1,VBUF,400,IND)
      RETURN
      END
```

```
        PAGE
A       EQU     5
B       EQU     4
*
*       FORREC  BAKREC          SPACE THE TAPE EITHER FORWARD OR
*       BACKWARD I RECORDS
*       CALLS      9SETUPN, R/IOPS
*       CALLED BY       MAIN PROGRAM
*       CALL BAKREC(N,I)        N = UNIT, I = NO.OF RECORDS
*
*
$BAKREC PZE      0
        LDA     BAKREC
        STA     FORREC
        BRU     FORREC+1
*
*
$FORREC PZE     0
        BRM     9SETUPN
        PZE     2
FUNIT   PZE     0               ;UNIT
FNREC   PZE     0               ;NO. OF RECORDS
        LDA     *FUNIT
        STA     FUNT
        BRM     ASGN
        PZE     1
FUNT    PZE     0
        LDA     ARFDT
        ADD     =03000000
        STA     FOCAL
        LDA     *FNREC
        SKU     =0
        BRU     RCEND
        LDB     BAKREC
        SKB     =077777         ;GO BACKWARDS
        BRU     $+2
        COPY    (-A,A)
        STA     TFDT+4
        BRM     R\IOPS
        PZE     1
FOCAL   PZE     0
        SKN     TFDT
        BRU     $+2
        BRU     $-2
RCEND   STZ     BAKREC
        BRR     FORREC
        PAGE
*
*       BAKSCN  FORSCN  SCANS FORWARD OR BACKWARD ON A TAPE FOR A
*       KEYWORD OR AN END FILE MARK
```

```
*       CALLS      9SETUPN, R/IOPS, BCDCVT, ASGN
*       CALLED BY      MAIN PROGRAM
*
*
*
$BAKSCN PZE     0
        LDA     BAKSCN
        STA     FORSCN
        BRU     FORSCN+1
*
*
$FORSCN PZE     0
        BRM     9SETUPN
        PZE     2
SUNIT   PZE     0
SEOF    PZE     0
        STZ     COUNT
        LDA     *SUNIT
        STA     SUNT
        BRM     ASGN            ;SEARCH SYMBOL TABLE
        PZE     1
SUNT    PZE     0
        LDA     =0600           ;600 - 4 CHARACTER/WORD
        STA     MODE            ;STORE MODE IN FDT
PLC1    LDA     =017170000      ;PUT EOF KEYWORD IN FDT
        STA     TFDT+4
        LDA     *SEOF           ;GET NO. OF EOF'S
        SKU     =0
        BRU     FEND
        SUB     =1
        STA     COUNT
PLC2    LDB     BAKSCN
        LDA     ARFDT
        ADD     =02000000
        SKB     =077777         ;SCAN BACKWARDS
        BRU     $+2             ;NO
        ADD     =00100000
        STA     SCNCAL
DOIO    BRM     R\IOPS
        PZE     1
SCNCAL  PZE     0
        SKN     TFDT
        BRU     $+2
        BRU     $-2             ;NO
        LDA     TFDT
        SKU     =06000000       ;BEGIN OR END TAPE
        BRU     FEND
        LDA     *SEOF
        SKU     =0
        BRU     CNTR
```

```
        LDA     TFDT
        SKE     =010000000
       BRU     DØIØ
CNTR    SKR     CØUNT
        BRU     DØIØ
        LDA     BAKSCN          ;WAS THERE BACKSCANNING
        SKU     =0
        BRU     FEND
        LDA     SUNIT
        STA     PLC3
        LDA     1
        STA     PLC4
        BRM     FØRREC          ;GØ FØRWARD 1 RECØRD TØ GET PAST THE EØF
        PZE     2
PLC3    PZE     0
PLC4    PZE     0
FEND    STZ     BAKSCN
        BRR     FØRSCN
*
*
CØUNT   PZE     0
        PAGE
*
*       BCDCVT     CØNVERTS A WØRD TØ BCD
*       CALLS     NØNE
*       CALLED BY      ASGN, FØRSCN, BAKSCN
*
*
$BCDCVT PZE     0
        BRM     9SETUPN
        PZE     1
WØRD    PZE     0
        STX     STØRE,1
        LDX     =0200000-4,1
        LDA     =060606060
        STA     NAMTAB
        STA     NAMTAB+1
CLØØP   LDB     WØRD
        ALSB    1
        CØPY    (0,A)
        DIV     =10
        CØPY    (A,B),(B,A)
        STB     WØRD
        LDB     MASK
        STS     NAMTAB
        LDA     NAMTAB
        CRSA     6
        STA     NAMTAB
        BRX     DLØØP,1
        BRU     ELØØP
```

```
DLOOP   LDA      WORD
        SKE      =0
        BRU      CLOOP
ELOOP   LDX      STORE,1
        BRR      BCDCVT
STORE   PZE      0
MASK    PZE      077
        PAGE
*
*       ASGN       FINDS SYMBOL TABLE ADDRESS OF TAPE UNIT
*       CALLS       R/RSTS
*      CALLED BY    ALL TAPE HANDLING SUBROUTINES
*       WILL CAUSE AN ABORT IF AN ADDRESS CORRESPONDING TO THE  UNIT
*       IS NOT FOUND
*
*
*
$ASGN   PZE      0
        BRM      OSETUPN
        PZE      1
TUNT    PZE      0
        LDA      TUNT
        STA      ASGN1
        BRM      BCDCVT
        PZE      1
ASGN1   PZE      0
ASGN2   BRM      R\RSTS
        PZE      1
        PZE      NAMTAB
         SKU      =0
        BRU      TERR
        STA      TFDT+5
        BRR      ASGN
TERR    LDA      NAMTAB
        STA      MSG+1
        BRM      R\ABRT
        PZE      1
        PZE      MSG
*
*
NAMTAB TEXT     8,
        PZE      3
*
MSG     PZE      4
        TEXT     16,      NOT FOUND
*
*
*
ARFDT   PZE      TFDT
*
```

```
TFDT   PZE     0
       PZE     0
       PZE     0
MØDE   PZE     0
DIRECT PZE     0
FCB    PZE     0
       PZE     0
*
       PAGE
*
*      BCDIN/ØUT   BININ/ØUT    READ ØR WRITE A TAPE IN EITHER BCD ØR
*      BINARY
*      CALLS      ASGN, 9SETUPN, R/IØPS
*      CALLED BY      MAIN PRØGRAM
*
$BINØUT PZE    0
       LDA     BINØUT
       STA     BCDØUT
       STA     BCDIN
       LDA     =01
       STA     BINFLG
       BRU     BCDIN+1
*
*
$BININ PZE     0
       LDA     BININ
       STA .   BCDIN
       LDA     =01
       STA     BINFLG
       BRU     BCDIN+1
*
*
$BCDØUT PZE    0
       LDA     BCDØUT
       STA     BCDIN
       BRU     BCDIN+1
*
*
$BCDIN PZE     0
       BRM     9SETUPN
       PZE     4
BUNIT  PZE     0              ;TAPE UNIT
BBUF   PZE     0              ;BUFFER ADDRESS
BREC   PZE     0              ;RECØRD LENGTH
BIND   PZE     0
       STZ     *BIND
       LDA     *BUNIT
       STA     BUNT
       BRM     ASGN
       PZE     1
```

```
BUNT    PZE     0
        LDA     =0600
        LDB     BINFLG
        SKB     =077777         ;IS FLAG SET - BINARY
        BRU     $+2
        ADD     =01000          ;YES
        STA     MODE
        STZ     BINFLG
        LDA     BBUF
        LDB     *BREC
        STD     TFDT+1
        LDA     ARFDT           ;FDT ADDRESS
        LDB     BCDOUT
        SKB     =077777         ;OUTPUT
        BRU     $+2             ;NO
        ADD     =04000000       ;YES
        STA     BCAL
        STZ     BCDOUT
        BRM     R\IOPS
        PZE     1
BCAL    PZE     0
        SKN     TFDT
        BRU     $+2
        BRU     $-2
        LDB     TFDT
        SKB     =016000000
        BRU     BFIN
        LDA     =01
        STA     *BIND
BFIN    STZ     BINFLG
        BRR     BCDIN
*
*
BINFLG PZE     0
        PAGE
*
*       WEOF     WRITES AN END OF FILE WITH AN OPTION TO REWIND THE
*        TAPE AT THE USER'S REQUEST
*       CALLS     9SETUPN, R/IOPS, RWND
*       CALLED BY      MAIN PROGRAM
*       CALL WEOF(N,IR)      N=UNIT, IR=0 OR 1 - NO REWIND OR REWIND
*
*
$WEOF   PZE     0
        BRM     9SETUPN
        PZE     2
WUNIT   PZE     0
WFLAG   PZE     0
        LDA     *WUNIT
        STA     WUNT
```

```
        BRM     ASGN            ;SEARCH SYMBOL TABLE
        PZE     1
WUNT    PZE     0
        LDA     ARFDT           ;FDT ADDRESS
        ADD     =03100000       ;OP CODE FOR ENDFILE
        LDB     *WFLAG          ;REWIND FLAG
        SKB     =077777
        BRU     $+2
        ADD     =00200000
        STA     WECAL           ;STORE OP CODE + FDT ADDRESS
        BRM     RNIOPS
        PZE     1
WECAL   PZE     0
        SKN     TFDT
        BRU     $+2
        BRU     $-2
        BRR     WEOF
        PAGE
*
$RWND   PZE     0
        BRM     9SETUPN
        PZE     1
RUNIT   PZE     0
        LDA     *RUNIT
        STA     RUNT
        BRM     ASGN            ;GO SEARCH SYMBL TABLE
        PZE     1
RUNT    PZE     0
        LDA     ARFDT           ;FDT ADDRESS
        ADD     =03200000       ;OP CODE FOR REWIND
        STA     RWCAL          ;STORE IN CALLING SEQUENCE
        BRM     RNIOPS
        PZE     1
RWCAL   PZE     0
        SKN     TFDT
        BRU     $+2
        BRU     $-2
        BRR     RWND
*
*
```

Digital Transform Display

Essentially the same as DSO except for changes in the input parameters and data, the Digital Transform Display or DXD allows the simultaneous display of as many as ten transforms. Transforms are read into the computer and stored on the drum. It is then possible to sweep in any direction through the transforms either in frequency or in time.

Its options are similar to those of DSO and include: namelist, frequency sweep, timesweep, amplitude scaling, trigger, variable frequency resolution, and spotlight.

i. Namelist

When this option is chosen, the user is allowed to modify the value of any namelist parameter. The line-edit capibility provided by the AGT-10 makes this task easy for even the worst typist.

ii. Frequency sweep

With a possible maximum of 200 points per line on the screen at any one time, it is necessary to sweep in frequency to be able to examine the entire spectrum of a long transform at high resolution. This option can be used in either of two modes: automatic frequency sweep in which all transforms are swept in frequency simultaneously, and individual sweep mode for which the sweep of each transform is regulated by one six control dials.

iii. Time sweep

Since each transform covers a certain window in time, to sweep in time will mean to display either younger or older transforms. In this application of time sweep, it is possible to sweep automatically or with the use of variable control dials.

iv. Amplitude scaling

Interactive amplitude scaling is provided with this option, which provides an alternative to amplitude scaling via namelist input. A control dial is used to govern the scaling.

v. Trigger

This option allows the operator to trigger on the amplitudes of the transforms currently being displayed. A control dial is used to set the trigger level.

vi. Variable frequency resolution

As the user of DSO is allowed to expand or contract the timebase of the display, so the user of DXD is allowed to modify the frequency base of the display with a control dial. As few as 10 frequency points can be displayed simultaneously or the entire transform can be averaged in such a way that it fits on the screen. In the latter case, the resolution is usually somewhat diminished.

vii. Spotlight

A spotlight, whose position is regulated by a control dial, is available to help accentuate interesting features of the spectra.

I. DXD - Operating Summary

DXD was designed to illustrate the transforms from a given number of seismograms on an two-dimensional display of amplitude versus frequency. Time control is available through two options: time sweep for individual seismograms and autosweep in time for which all of the seismograms are updated simultaneously.

Used either stand-alone or as an overlay segment, DXD requires that the "GATED" graphics package be activated in the AGT-10. To transfer control to DXD either a save-tape containing the program must be loaded or the appropriate subroutine call must be made. A data tape containing transforms from up to ten seismograms is mounted on the appropriate unit. The user has the option of specifying namelist variables by typing them in on the XDS 9300 teletype console or by loading a prepared card deck and typing:

```
ICARD = 1
c/r *
c/r
```

II. Function Switch Definitions

Once the program has been initialized, the AGT-10 console, function switches, and control dials are used for program control. Below are listed the function switch definitions. When control dials are to be used in conjunction with a particular function switch option, they have been indicated in paretheses.

3 - namelist input

This allows the operator to modify namelist parameters from the AGT-10 teletype console.

4 - dial overlay option

Since there are only six control dials and since a maximum of ten transforms can be displayed simultaneously, this function switch allows the operator to use one control dial for more than one transform when one of the sweep options has been selected.

5 - timesweep (all dials)

This option allows the user to view either previous or subsequent transforms using the control dials to select the transform of interest.

6 - frequency sweep (all dials)

Each transform can be swept individually in frequency and is governed by the control dials.

7 - scaling (dial D)

As an alternative to namelist, amplitudes may be scaled manually.

8 - trigger (dial C)

The control dial is used to set the trigger level and function switch 10 is used to change the sign of the trigger level. Function switch 15 should be on for triggering from current position; off for triggering from beginning of the transform.

9 - auto sweep

This option causes continuous frequency sweeping of all seismograms. Function switch 10 will reverse the direction of the sweep. By selecting function switch 15, the auto sweep will be applied to the time sweep option rather than the frequency sweep option.

10 - sign option

Used in conjunction with function switches 5, 6, 8, 9, and 11, the sign of the time sweep direction, the frequency sweep direction, or of the trigger amplitude becomes negative.

11 - auto sweep once

A single time sweep or frequency sweep of all of the data is executed. The sweep direction is reversed by selecting function switch 10 and function switch 15 must be on to obtain a time sweep.

12 - span (dial C)

This option expands or contracts the frequency base of the display.

13 - spotlight (dial A)

The control dial is used to position the spotlight at the desired location. When the function switch is turned off, the highlight will remain on and stationary.

14 - remove spotlight -

This option turns off the spotlight.

15 - miscellaneous

When this function switch is on the user is allowed to either trigger from the lead point of the data currently being displayed or to use the auto option to sweep in time.

III. Control Parameters

The namelist variables are listed below. For each, the range and default value have been give in parentheses. 'I' has been used to indicate array variables all of which can have up to ten entries. Real variables are indicated by the use of decimal points.

A. Original Data Specifications:

NCH(1-?;2)	number of channels
MP(?;0;I)	maximum number of points on the seismogram
SP(?;20.0)	original sampling rate of data in samples/second

ITO(?,?,?;0,0,0;I)	start time of the data in hours, minutes, and seconds
IDGRAM(?;0;I)	seismogram identification number

B. Mechanical Data Specifications:

ICH(?;1)	channel to be displayed
LREC(1-1024;1024)	length of input record in words
DZONE(0-?;.008)	sensitivity of dials; as DZONE is decreased, the dials become more sensitive

C. Basic Display Specifications

NPT(1-200;200)	number of points to be displayed per line
BIAS(?;0;I)	bias for displayed data
SCL(?;10.0)	scale factor, this scale factor should be used for interactive modification
SF(?;65536)	scale factor for AGT-10 output
INT(1-10;1)	intensity of data display
MAXGM(1-10;10)	maximum number of seismograms that can be displayed

IW(0-1,1,I)	flags choosing which seismograms will be displayed 0-no display ; 1-display

D. Program Control Specifications

ITAPE(0-7;2)	input tape unit number
MTAPE(0-7;0)	rewind specified tape unit
IDEV(1-2;1)	AGT-10 number
ICARD(0-1;0)	read card input
INITL(0-1;0)	reinitialize program
KILL(0-1;0)	return to master program

E. Display Specifications

LP(1-MP;1;I)	lead point of displayed data
X0(?;-0.4)	location of X=0, coordinate and data display
Y0(?;-0.7)	location of Y=0, coordinate and data display
INCR(0-?;100)	lead point increment when using auto sweep
INC(0-?;0)	number of points skipped between each point displayed

F. Spot Display Specifications

IWIDE(1-10;10)	width of spotlight in points

G. Trigger Control Specifications

MAXV(0-?;4096)	maximum value of trigger level

IV. Example of a Change of Control Parameters

Initially the user has the following display:

1. 8 seismograms, numbered 1 through 8 2. INT = 1, the lowest possible intensity on the display 3. INC = 0, one data point per plot point on the screen

The parameters are to be changed to yeild the following:

1. 2 seismograms, numbers 5 and 7

Type

1. IW = 0,0,0,0,1,0,1,0,0,0

or

IW(1) = 0

.

.

.

IW(4) = 0

IW(5) = 1

IW(6) = 0

IW(7) = 1

IW(8) = 0

IW(9) = 0

IW(10) = 0

2. INT = 2, increase screen intensity 3. INC = 2, two data points are averaged to produce one plot point. (Function switch 12 could also have been used.)

```
*
*
*  PRØJECT EARTHQUAKE
*
*   SUBTASK DXD - DIGITAL TRANSFØRM DISPLAY
*
*
      SUBRØUTINE DXD
*
      JSW(I) = LAND(JW,LLS(1,23-I))
      JØFF(I)=LAND(JW,LXØR(-1,LLS(1,23-I)))
*
      DIMENSIØN Y(200,10),MD(200,10),IBUF(2048),IMAGE(2002),IMG(200,10),
     *           LP(10),MIDLE(10),NRECS(10),NREC(10),LPD(10),
     *          DIALS(10),FDS(10),TDS(10),ITIME(3,10),ITO(3,10),IT(10),
     *          ITX(2),ITDIR(30),IGDIR(10),IMSPT(102),IMS(10,10),
     $          BIAS(10), ICØR(24),IDGM(10),IDGRAM(10),ITXA(7), IW(10)
     *         ,IDT(10),IDTD(10),NXF(10),LXF(10)
*
      EQUIVALENCE (IMAGE(2),IMG), (IMSPT(2),IMS)
      EQUIVALENCE (XØ,X0),(YØ,Y0)
      EQUIVALENCE (IBUF,MD)
*
      NAMELIST LREC,NPT,IWIDE,BIAS,ITAPE,T,TMSCL,NSGM,
     1         IDEV,LP,MP,X0,Y0,ITO,SCL,ICARD,INCR,DZØNE,SF,INITL
     2          ,INC,MAXV,INT,MAXGM,IDGRAM,IW,LHXFM,    TMSCL
     3         ,NXF,IDT
      NAMELIST KILL
*
      DATA NULL/-1/,LREC/2048/,MAXV/4096/,DZØNE/.0080/,IDEV/1/,
     *     ITAPE/2/,IWIDE/10/,X0/-0.4/,Y0/-.7/,SR/20./,SCL/10./,NPT/200/,
     *     INC/0/,INT/1/,INTSP/10/,DX/0.007/,INCR/25/,SF/1/,
     *     LHXFM/512/,ICURS/0/
      DATA KILL/0/
*
      INTEGER TRL
C
C     PARAMETER  INPUT
C
   10 INITL = 1
      ØUTPUT(102) 'PARAMETER  INPUT'
      INPUT(101)
   20 IF(ICARD .EQ. 1) ICARD = 0 ; INPUT(5)
      IF(INITL .EQ. 0) GØ TØ 100
   30 CALL INIT
C
C     READ INPUT TAPE
C
      INITL = 0
      DØ 90 I = 1,NSGM
```

```
      MREC = 0
      DØ 35 N = 2,I
   35 MREC = MREC + NREC(N-1)
      IFILE = 10 + MREC
      DØ 50 K = 1,NREC(I)+1
      DØ 45 J=1,IXF
      CALL BININ(ITAPE,IBUF(LHXFM*(J-1)+1),LHXFM,IND)
      IF(IND .EQ. 0) GØ TØ 45
      IF(J .EQ. 1) GØ TØ 90
      CALL WRITE(IFILE,IBUF,LREC)
      GØ TØ 90
   45 CØNTINUE
      CALL WRITE(IFILE, IBUF,LREC)
   50 IFILE = IFILE + 1
   90 CØNTINUE
C
C     SETUP DISPLAY BUFFER
C
      IFLD = 1
  100 I = 0
      DØ 160 IJK = 1,MAXGM
      IF(IW(IJK) .EQ. 0) GØ TØ 160
      I = I + 1
*
*     IF THE SCALE HAS BEEN CHANGED, UPDATE DISPLAY
*
      IF(ISCL .NE. 0) GØ TØ 101
*
*     IF REINITIALIZATIØN ØR LEAD PØINT CHANGE, UPDATE DISPLAY
*
      IF((IDTD(I) .EQ. IDT(I)) .AND. (LP(I) .EQ. LPD(I))) GØ TØ 160
  101 IDTD(I) = IDT(I)
      LPD(I) = LP(I)
      MREC = 0
      DØ 115 N = 2,IJK
  115 MREC = MREC + NREC(N - 1)
      NRECS(I) = NREC(IJK)
      IDLE = (IDT(I) - 1)/IXF
      IFILE = 10 + MREC + IDLE
      CALL READD(IFILE, IBUF, LREC)
      MIDLE(I) = (IDT(I) - IDLE*IXF - 1)*LHXFM
      DØ 130 J = 1,NPT
      IR = LP(I) + (J-1)*(INC+1) + MIDLE(I)
      IF(IR.GT.MIDLE(I)+LHXFM)GØ TØ 120
      Y(J,I) = IBUF(IR)*SCL/SF
      GØ TØ 130
*
*     STUFF ZERØS INTØ THE DISPLAY
*
  120 Y(J,I) = 0.0
```

```
 130 CØNTINUE
 160 CØNTINUE
     ISCL = 0
C
C    DISPLY BUFFER
C
     IF(IFLD .EQ. 0) GØ TØ 165
     CALL TIMETX
     CALL REMØVE
     CALL DSPLY
 165 IF(KSFLG .EQ. 0) GØ TØ 170
     IF(KSPT .NE. 0) CALL SPØT
     KSPT = 0
 170 CØNTINUE
C
C    SENSE FUNCTIØN SWITCH ØPTIØN
C
C    FUNCTIØN SWITCH ASSIGNMENT
C    3  NAMELIST INPUT
C    4  DIAL ØVERLAY ØPTIØN
C    5  TIME SWEEP - ALL DIALS
C    6  FREQUENCY SWEEP  -  ALL DIALS
C    7  AMPLITUDE SCALING  -  DIAL 4
C    8  TRIGER  -  DIAL 3
C    9  AUTØ SWEEP
C    10  DIRECTIØN ØF SWEEP
C    11  SINGLE SWEEP
C    12 FREQUENCY BASE - DIAL 3
C    13  SPØTLIGHT  -  DIAL 1
C    14  REMØVE SPØTLIGHT
C    15 TRIGGER FRØM CURRENT LP, ØR AUTØ SWEEP IN TIME
C    16  UNUSED
C
 200 CALL FNS(IDEV,ISW,IER)
     IF(IER .NE. 0) ØUTPUT(102) IER,'ISW'
     JW = LXØR(JW,ISW)
     LB = NGM + 3
     DØ 220 I = 3,16
     IF(JSW(I) .EQ. 0) GØ TØ 220
     ENCØDE(4,210,ITX) I
 210 FØRMAT(I2)
     CALL TEXTØ(IDEV,ITX,1,LB,1,1,3,IER)
     IF(IER .NE. 0) ØUTPUT(102) IER,'SW'
     LB = LB + 1
 220 CØNTINUE
     DØ 230 I = LB, NGM + 16
     CALL TEXTØ(IDEV,NULL,1,I,1,1,3,IER)
     IF(IER .NE. 0) ØUTPUT(102) IER,'NUL'
 230 CØNTINUE
     CALL VCD(IDEV,DIALS, IER)
```

```
      IF(IER .NE. 0) ØUTPUT(102) IER,'VCD'
C
      IFLD = 1
*
*     TEST FØR MANELIST INPUT
*
  300 IF(JSW(3) .EQ. 0) GØ TØ 310
      IB = NGM + 17
      CALL GINPUT(IDEV, ITDIR,IB)
      CALL PAR
      JW = JØFF(3)
      IF(KILL .NE. 0) KILL = 0; RETURN
      IF(LSTNGM .NE. NGM) CALL INIT
      GØ TØ 100
  310 IF(JSW(5) .NE. 0) CALL TIMESWP; GØ TØ 100
      IF(JSW(6) .NE. 0) CALL FREQSWP; GØ TØ 100
      IF(JSW(7) .NE. 0) CALL SCALE; GØ TØ 100
      IF(JSW(8) .NE. 0) CALL TRIGER; JW = JØFF(8); GØ TØ 100
      IF(JSW(9) .NE. 0) CALL AUTØ; GØ TØ 100
      IF(JSW(11).NE. 0) CALL AUTØ; JW=JØFF(11); GØ TØ 100
      IF(JSW(12).NE. 0) CALL SPAN; GØ TØ 100
      IF(JSW(13) .NE. 0) KSPT = 0; CALL SPØT; GØ TØ 100
      IF(JSW(14) .NE. 0) CALL SPØT; GØ TØ 100
      GØ TØ 200
*
*
*
      SUBRØUTINE SCALE
      IF(ABS(DIALS(4) - SCLD) .LT. DZØNE) IFLD = 0; RETURN
      SCLD=DIALS(4)
      SCL=(1.0+SCLD)*10.0
      DØ 10 I=1,NGM
   10 LPD(I) = -1
      KSPT = 1
      RETURN
*
*
*
      SUBRØUTINE TRIGER
      ISGN = 0
*
*     MAXV IS THE UPPER LIMIT ØF THE TRIGGER LEVEL
*
      TRL =(DIALS(3) +1)*MAXV/2
      I = 0
      DØ 30 IJK = 1,MAXGM
      IF(IW(IJK) .EQ. 0) GØ TØ 30
      I = I + 1
      MREC=0
      DØ 10 J = 2,IJK
```

```
   10 MREC = MREC + NREC(J-1)
      DO 20 K=1,NREC(I)
      IFILE=10+MREC  + (K-1)
      CALL READD(IFILE,IBUF,LREC)
      IST = 1
*
*     OPTION TO TRIGGER FROM CURRENT LEAD POINT
*
      IF(JSW(10) .NE. 0) IST = LP(I)
      DO 20 KK = IST,LHXFM
      L = KK + MIDLE(I)
      IF((IBUF(L)*(SCL/SF) - TRL) .GE. 0) LP(I) = KK; GO TO 30
   20 CONTINUE
*
*     IF NO TRIGGER LEVEL IS FOUND, SET THE LEAD POINT TO THE LAST
*     POINT OF THE GRAM
*
      LP(I) = LHXFM
   30 CONTINUE
      ENCODE(8,100,ITX)TRL
100   FORMAT(I8)
      CALL  TEXTO(IDEV,ITX,2,1,92,1,3,IER)
      IF(IER.NE.0)OUTPUT(102)IER,'TRL'
      KSPT = 1
  200 RETURN
*
*
*
      SUBROUTINE TIMESWP
*
*     MOVE THROUGH THE TRANSFORMS IN TIME
*
      IFLD = 0
      N1=NGM
      N2=0
      IF(NGM.GT.6)N1=6;N2=NGM-6
      IF(JSW(4).NE.0)GO TO 20
*
*     DO TRANSFORMS 1 TO 6
*
      DO 10 I=1,N1
      IF(ABS(DIALS(I) - TDS(I)) .LT. DZONE) GO TO 10
      TDS(I) = DIALS(I)
      IDT(I) = (1.0 + DIALS(I))*LXF(I)/2+1
      IF(IDT(I) .LT. 1) IDT(I) = 1
*
*     INSURE DISPLAY AND SPOTLIGHT UPDATE
*
      IFLD = 1
      KSPT = 1
```

```
10    CØNTINUE
      RETURN
*
*     DØ TRANSFØRMS 7 TØ 10
*
20    DØ 30 I=1,N2
      IF(ABS(DIALS(I)    - TDS(I+6)) .LT. DZØNE) GØ TØ 30
      TDS(I+6) = DIALS(I)
       IDT(I+6) = (1.0 + DIALS(I)   )*LXF(I+6)/2+1
      IF(IDT(I+6) .LT. 1) IDT(I+6) = 1
*
*     INSURE DISPLAY AND SPØTLIGHT UPDATE
*
      IFLD = 1
      KSPT = 1
30    CØNTINUE
      RETURN
*
*
*
      SUBRØUTINE FREQSWP
*
*     CHANGE FREQUENCIES DISPLAYED FØR THE CURRENT TRANSFØRM
*
      IFLD = 0
      N1=NGM
      N2=0
      IF(NGM.GT.6)N1=6;N2=NGM-6
      IF(JSW(4).NE.0)GØ TØ 20
*
*     DØ TRANSFØRMS 1 TØ 6
*
      DØ 10 I=1,N1
      IF(ABS(DIALS(I) - FDS(I)) .LT. DZØNE) GØ TØ 10
      FDS(I) = DIALS(I)
      LP(I) = (1.0 + DIALS(I))*(LHXFM/2)
      IF(LP(I) .LT. 1) LP(I) = 1
*
*     INSURE DISPLAY AND SPØTLIGHT UPDATE
*
      KSPT = 1
      IFLD = 1
10    CØNTINUE
      RETURN
*
*     DØ TRANSFØRMS 7 TØ 10
*
20    DØ 30 I=1,N2
      IF(ABS(DIALS(I)    - FDS(I+6)) .LT. DZØNE) GØ TØ 30
      FDS(I+6) = DIALS(I)
```

```
      LP(I+6) = (1.0 + DIALS(I)   ) * (LHXFM/2)
      IF(LP(I+6) .LT. 1) LP(I+6) = 1
*
*     INSURE DISPLAY AND SPØTLIGHT UPDATE
*
      KSPT = 1
      IFLD = 1
30    CØNTINUE
      RETURN
*
*
*
      SUBRØUTINE AUTØ
*
*     AUTØMATIC SWEEP IN TIME ØR FREQUENCY
*
      ISGN=0
*
*     FUNCTIØN SWITCH  DETERMINES DIRECTIØN
*
      IF(JSW(10).NE.0)ISGN=-1
      IF(JSW(15) .NE. 0) GØ TØ 20
*
*     SWEEP IN FREQUENCY
*
      DØ 10 I=1,NGM
      LP(I)=LP(I)+ISIGN(INCR,ISGN)
      IF(LP(I) .LT. 1) LP(I) = 1
      IF(LP(I) .GT. LHXFM) LP(I) = LHXFM
   10 CØNTINUE
      KSPT = 1
      RETURN
*
*     SWEEP IN TIME
*
   20 DØ 30 I = 1,NGM
      IDT(I) = IDT(I) + ISIGN(1,ISGN)
      IF(IDT(I) .GT. LXF(I)) IDT(I) = LXF(I)
      IF(IDT(I) .LT. 1) IDT(I) = 1
   30 CØNTINUE
      KSPT = 1
      RETURN
*
*
*
      SUBRØUTINE SPAN
*
*     EXPAND ØR CØNTRACT THE FREQUENCY BASELINE
*
      IF(ABS(DIALS(3) - SPN) .LT. DZØNE) IFLD = 0;RETURN
```

```
      SPN = DIALS(3)
      IF(SPN .LE. 0) GO TO 20
*
*     EXPAND THE TRANSFORM
*
   10 NPT = (1-SPN)*200
      IF(NPT .LT. 10) NPT = 10
      DX = 1.4/NPT
      INC = 0
      GO TO 30
*
*     CONTRACT THE TRANSFORM
*
   20 NPT = 200
      MIRC = LHXFM/NPT
      IF(MIRC*NPT .LT. LHXFM) MIRC = MIRC + 1
      INC = (ABS(SPN))*MIRC
      DX = 0.007
*
*     DISPLAY THE FREQUENCY  RANGE BEING DISPLAYED
*
   30 S = (NPT/T)*(INC+1)
   35 ENCODE(8,100,ITX) S
  100 FORMAT(F8.2)
      CALL TEXTO(IDEV,ITX,2,2,92,1,3,IER)
      IF(IER .NE. 0) OUTPUT(102) IER,'SPAN'
      DO 200 I = 1,NGM
  200 LPD(I) = 0
      KSPT = 1
      RETURN
*
*
*
      SUBROUTINE TIMETX
      DO 20 NM = 1,NGM
      I = NGM - (NM -1)
*
*     COMPUTE THE TIME OF EACH TRANSFORM
*
      K=IT(I)+(IDT(I)-1)*TMSCL
      ITIME(1,I) = K /3600
      ITIME(2,I) = (K-ITIME(1,I)*3600)/60
      ITIME(3,I) = K - ITIME(1,I)*3600 - ITIME(2,I)*60
      IAMP = Y(1,I)*(SF/SCL)
      FRQ = LP(I)/T
*
*     IF THE SPOTLIGHT IS ON, DISPLAY THE TIME AT THE CENTER OF THE CURSOR
*
      IF(ICURS .NE. 0) FRQ = FRQ + (SPTA + (IWIDE/2))/T
      ENCODE(28,100,ITXA) IDGM(I),ITIME(1,I),ITIME(2,I),ITIME(3,I),
```

```
     1 FRQ,IAMP
  100 FORMAT(A4,' ',I2,' ',I2,' ',I2,'  ',F7.4,' ',I5)
      CALL TEXTO(IDEV,ITXA,7,NM,1,1,3,IERROR)
      IF(IERROR .NE. 0) OUTPUT(102) IERROR,'TXO'
   20 CONTINUE
      RETURN
*
*     .
*
C     A SUBROUTINE TO DISPLAY GRAPHICAL DATA
C     CALLS  IHEAD, IPACK,GRAPHO
C
      SUBROUTINE DSPLY
      IMAGE(1) = IHEAD(0,INT)
      L = NPT*NGM + 2
      MKZO = LSTNPT - NPT
      DO 15 I = 1,NGM
      K = (I - 1)*NPT + 1
*
*     COMPUTE THE VERTICLE SPACING OF EACH LINE
*
      YV = YO + (I-1)*DY
      DO 10 J = 1,NPT
      XIM = XO + DX*(J - 1)
      YIM = YV + Y(J,I) - BIAS(I)
      IF(J.NE. 1) GO TO 9
*
*     MAKE THE FIRST POINT OF EACH LINE A MOVE
*
      IMAGE(K+J) = IPACK(XIM,YIM,0)
      GO TO 10
    9 IMAGE(K+J) = IPACK(XIM,YIM,MD(J,I))
   10 CONTINUE
   15 CONTINUE
      IMAGE(L) = 0
      DO 20 I = 1,MKZO*NGM
      IMAGE(L+I) = 0
   20 CONTINUE
      CALL GRAPHO(IDEV, IMAGE,L, 1, IER)
      IF(IER .NE. 0) OUTPUT(102) IER,'GPO'
      LSTNPT = NPT
      RETURN
C
C
C
*
*     SPOTLIGHT A CERTAIN BAND OF EACH TRANSFORM READING OUT THE FREQUENCY
*     AT THE CENTER OF THE SPOTLIGHT
*
      SUBROUTINE SPOT
```

```
      ICURS = 1
      IF(JSW(14) .NE. 0) ICURS = 0; GO TO 15
*
*     WHEN THE KSPT FLAG IS ON, THE SPOTLIGHT WILL BE UPDATED WITHOUT
*     READING THE AGT DIALS
*
      IF(KSPT .NE. 0) GO TO 9
*
*     READ THE AGT DIALS
*
      IF(ABS(DIALS(1) - SPT) .LT. DZONE) IFLD = 0; RETURN
      SPT = DIALS(1)
      SPTA = (DIALS(1) + 1)*NPT
      SPTB = SPTA + IWIDE
      IF(SPTB .LE. NPT) GO TO 5
      SOV = SPTB - NPT
      SPTA = SPTA - SOV
    5 CONTINUE
C
C     WITH -1<DIALS<+1 GET NUMBER OF LEAD SPOT POINT
C
    9 IMSPT(1) = IHEAD(0,INTSP)
      L = IWIDE* NGM + 2
      DO 10 I = 1,NGM
      K = (I-1)*NPT + 1 + SPTA
      DO 10 J = 1,IWIDE
      IMS(J,I) = IMAGE(K+J)
      IF(J .EQ. 1) IMS(J,I) = LAND(77777776B,IMS(J,I))
   10 CONTINUE
      IMSPT(L) = 0
      KSFLG = 1
      GO TO 17
*
*     ZERO THE SPOTLIGHT ARRAY, THUS MAKING EACH POINT A MOVE
*
   15 DO 16 I = 1,NGM
      DO 16 J = 1,IWIDE
      IMS(J,I) =0
   16 CONTINUE
      K = NGM*IWIDE + 1
      IMSPT(K) = 0
      IMSPT(K+1) = 0
      KSFLG = 0
   17 CONTINUE
      KSPT = 0
      CALL GRAPHO(IDEV,IMSPT,L,3,IERROR)
      IF(IERROR .NE. 0) OUTPUT(102) IERROR,'GSO'
      CALL TIMETX
      IFLD = 0
      RETURN
```

```
C
C
C
      SUBR8UTINE C88RD
      IC8R(1) = IHEAD(1,INT)
C
C     PL8T Y AXIS
C
      IC8R(2) = IPACK(X8,Y8,0)
      YC8R = Y8 + 1.4
      IC8R(3) = IPACK(X8,YC8R,1)
C
C     PL8T X AXES
C
      D8 10 I = 1,NGM
      XC8R = X8 + 1.4
      YC8R = Y8 + (I-1)*DY
      K = (I-1)*2 + 4
      IC8R(K) = IPACK(X8,YC8R,0)
      IC8R(K+1) = IPACK(XC8R,YC8R,1)
   10 C8NTINUE
      IC8R(K+2) = 0
      CALL GRAPH8(IDEV,IC8R,K+2,2,IERR8R)
      IF(IERR8R .NE. 0) 8UTPUT(102) IERR8R,'C8R'
      RETURN
C
C
C
C
C
C
      SUBR8UTINE INIT
*
*     INITIALIZE THE GRAPHICS DISPLAY AND PR8GRAM 8PERATI8NS
*
      CALL PAR
      D8 10 I = 1,MAXGM
      IT(I) = ITO(3,I) + 60*(ITO(2,I)+60*ITO(1,I))
      LP(I) = 1
      LPD(I) = 0
       IDT(I) = 1
      IDTD(I) = 0
      FDS(I) = 0
      TDS(I) = 0
      BIAS(I) = 0.0
      D8 10 J = 1,NPT
      Y(J,I) = 0.
      MD (J,I) = 1
      IF (J .EQ. 1) MD(1,I) = 0
   10 C8NTINUE
```

```
      CALL DTINIT(IDEV, ITDIR, 30,IER)
      IF(IER .NE. 0) ØUTPUT(102) IER,'DTIN'
      CALL TIMETX
      CALL DGINIT(IDEV,IGDIR,10,IER)
      IF(IER .NE. 0) ØUTPUT(102) IER,'DGIN'
      CALL DSPLY
      TRL = 0
      ENCØDE(8,20,ITX) TRL
   20 FØRMAT(I8)
      CALL TEXTØ(IDEV,ITX,2,1,92,1,3,IER)
      IF(IER .NE. 0) ØUTPUT(102) IER,'ITRL'
      S = NPT*(INC+1)/T
      ENCØDE(8,30,ITX) S
   30 FØRMAT(F8.2)
      CALL TEXTØ(IDEV,ITX,2,2,92,1,3,IER)
      IF(IER .NE. 0) ØUTPUT(102) IER,'ISPAN'
      LSTNPT = LSTWID = 0
      LSTNGM = NGM
      CALL CØØRD
      RETURN
C
C
*     CØMPUTE PARAMETERS NECESSARY FØR PRØGRAM ØPERATIØN
C
      SUBRØUTINE PAR
      DØ 10 I=1,NSGM
*
*     NSF - NUMBER ØF TRANSFØRMS PER GRAM
*     IXF - NUMBER ØF TRANSFØRMS PER 2048 (I.E. PER DRUM FILE)
*     NREC - NUMBER ØF DRUM FILES
*
      IXF = LREC/LHXFM
      NREC(I)=NXF(I)/IXF
      IF(NXF(I).GT.NREC(I)*IXF)NREC(I)=NREC(I)+1
10    CØNTINUE
      NGM = 0
      I = 0
      DØ 20 IJK = 1,MAXGM
      IF(IW(IJK) .EQ. 0) GØ TØ 20
      I = I + 1
      NGM=NGM+1
      IDGM(I) = IDGRAM(IJK)
      LXF(I)=NXF(IJK)
   20 CØNTINUE
      DX = 1.4/NPT
      DY = 1.4/NGM
      IF(SCL .NE. SCLSAV) SCLSAV=SCL; ISCL = 1
      IF(SF .NE. SFSAV) SFSAV = SF; ISCL = 1
      RETURN
C
```

```
C
C
C
      SUBROUTINE REMOVE
      DO 10 I = 1,NGM
      DO 10 J = 1,NPT
   10 MD(J,I) = 1
      DO 100 I = 1,NGM-1
      DO 100 J = 1,NPT
      DO 100 N = I+1,NGM
      IF(MD(J,N) .EQ. 0) GO TO 100
      IF(    (Y(J,I)-BIAS(I)).GT.(    (Y(J,N)-BIAS(N))+DY*(N-I))) MD(J,N)=
     1 0
  100 CONTINUE
      RETURN
C
C
C
      SUBROUTINE DUMMY; RETURN
C
      END
```

On-Line Extended Signal Processing

This is a revision of the Extended Signal Processing program, which was originally written for acoustic data. The prime motivation for restructuring ESP was the very considerable amount of time required to process the seismic data. Previously, the fast Fourier transforms were taken as a separate step in the data analysis and were stored on magnetic tape. For data sets consisting of hundreds of thousands of sample points, separate computation of the transforms is reasonable; however, when the data consisted of only a few thousand points, the overhead in terms of man hours for magnetic tape manipulation is excessive. Thus a version of ESP was written which calls a subroutine to preform the transforms on the time data, sending the results back to ESP for display.

Another improvement in ESP was the addition of a multiple input file capibility allowing the user to move from one seismogram to the next with ease. Previous versions of ESP had required complete program reinitialization before a new data set could be processed.

A useful addition to the program was its hard-copy option. Any picture on the AGT screen could be read out onto magnetic tape for subsequent processing on the PDP 11/50 to produce line drawings on the Versatec printer-plotter. This option is particularly useful when qualitative comparison of many siesmic spectra is desired.

To provide the user with greater flexibility in data handling, the NIFTY tape handling package was included in the On-Line-ESP package.

The basic function of ESP itself is to provide a versatile display of transformed signals in three dimensions. Unlike DXD, it allows the user to study, for one seismic record, the dynamic characteristics of the signals in both the frequency and time domains. Options are chosen using the AGT-10 function switches and often require the control dials. Since ESP does not use the standard package of graphics subroutines, it differs in some respects from DSO and DXD.

i. Namelist

This option is always operative and does not have to be signaled by a function switch. When a * carriage return is issued by the operator, all newly specified namelist parameters are updated in the program.

ii. Input halt

Unless this option is selected, the program will continue to compute transforms and update the display. Thus when something of interest appears on the screen, it is possible to stop and inspect the transforms in greater detail.

iii. Amplitude Scaling

Halting the display update process and allowing the operator to modify the scale factor of the displayed data, this option provides an easy alternative to scaling through namelist.

iv. Frequency sweep

With both automatic and single sweep modes, the operator can inspect all frequencies of the display despite the fact that the transforms may be too long to allow the entire spectrum to appear on the screen at once.

v. Spotlight

Control dials are used to set up to three spotlights on the desired frequencies. As the display is updated, interesting or promising frequencies are accentuated.

vi. Hardcopy

At any time the operator may choose to record the display on magnetic tape for subsequent processing into hardcopy output. It adds to the versatility of the program since not all analysis needs to be done in the laboratory.

vii. Harmonic display

This option is useful in some applications by allowing the operator to examine and spotlight the time history of selected frequency harmonics. It was not

extensively used in this project.

I. On-Line ESP - Operating Summary

On-line ESP was written to save time and space during the processing of seismic data. As an alternative to the three-step process of performing the transforms, storing them on magnetic tape, and finally displaying them using ESP, a program has been written which performs the transforms and supplies them to ESP as they are needed. The only tape necessary is that containing the original time data; however, it is possible to create an output tape contianing x-y pairs for plotting on the Versatec Matrix Plotter.

Because of the limitations of the core size of the XDS 9300, On-Line-ESP was written as an overlay package. It consists of a main segment and three primary overlay segments: ESP, XFORM, and NIFTY. ESP is the basic display program, XFORM computes the Fast Fourier transforms of the seismic data, and NIFTY is used for tape manipulation.

II. Program Modules

A. NIFTY

This is an all-purpose tape handling package. It can be called prior to the first processing of the data or can be called from ESP. Upon returning from NIFTY, control is

transfered directly to the beginning of ESP. It is the user's responsibility to position the input tape at a header record when completing use of NIFTY. The data tapes used in this project have one seismogram per file, so positioning at the beginning of a file is sufficient. If the multiple file option of ESP is being used, the program will require parameter input and a card deck should be ready when it is reentered. If no parameter update is necessary, a "*" card is sufficient.

NIFTY asks for commands, which can be any of the following:

1. RECORDS = 1	space forward or backward a given number of records
2. FILES = 1	space forward or backward a given number of files
3. TAPRWD = 1	rewind a tape
4. WRTEOF = 1	write an end of file
5. DUMP = 1	read a tape and dump on line printer
6. COPY = 1	copy one tape to another tape

Subsequent instructions to the user will be issued after '* c/r' has been typed on the control console.

B. XFORM

This program performs the transforms. It receives all of its parameters from ESP. Most of the parameters are given in the header record; however, there are a few which should be specified when ESP is initialized:

LFT - length, in points, of the transform

LAG - lag, in points, between transforms

NONOISE - the number of transforms to be averaged together to create the mean noise transform, which will be subtracted from all of the transforms prior to their being displayed on the AGT. If NONOISE = 0, the transforms will be displayed without noise subtraction. If NONOISE = 1000 all of the transforms will be used to find the mean noise transform.

Transforms will be taken for as much data as possible. The maximum number of possible transforms will depend upon their length and the lag between the transforms:

number of transforms = (number of sample points - LFT)/LAG .

Because the overlay system requires a non-trivial amount of time to transfer from one program module to another, it was found that program efficiency could be improved by storing transforms on the drum. While in XFORM, transforms are stored on the drum in a 1K word data area. Thus if the transform length is 256 points, eight transforms could be stored. The mirror image half of the transform having been discarded. When control returns to ESP, the drum is read and the transforms are displayed with the maximum speed.

C. ESP

This is the Extended Signal Processing Fourier Transform

display program. A maximum of ten transforms are displyed simultaneously within a three dimensional plot The x axis is frequency, the y axis is amplitude or power, and the z axis is time. An excellent hidden line removal algorithm developed by Albert Wong allows the display to be rotated and scaled with no distortion of the image. Its jobs are to request transforms from XFORM and to communicate with the AGT either to change its display parameters or to send it new transforms.

Because of its interactive capibilities, many parameters must be specified when the program is initialized and most can be changed to modify the appearance of the display. These parameters are listed below. Many parameters are initialized within the program and others are given their values via card input. For the latter group, each parameter is followed by its default value in brackets.

Function Switch Options

The program's dynamic interactive capibility is provided by the function switches, control dials, and teletype console available on the AGT-10. The function switches are listed below with their corallary control dials indicated when applicable.

1 - restart

Flags will be set for program reinitialization. The user is given the opportunity to modify namelist parameters before proceeding.

2 - sideline display

The most recently displayed transform is given an additional separate display on a section of the screen. This allows the operator to inspect each transform as it appears with greater detail.

3 - .rotation (dial C)

While this function switch is on, dial C may be used to rotate the display through 180 . The hidden line removal algorithm will help to yeild a display which can be viewed from the sides as well as in a waterfall.

4 - display loop

Update of the display is continuous unless this function switch is on. The use of this function switch allows the operator to examine certain spectra in more detail and to apply other function switch options for enhancement of the data.

5 - spotlight adjust (dials A, B, and C)

As many as three spotlights may be displayed simultaneously. The spotlight adjust option allows the user to reposition the spotlights using the control dials.

6 - harmonic option

This function switch causes the spotlights to move simultaneously while they are separated from each other by a specified harmonic factor.

7 - spotlight display

The spotlight option is turned on and off with this function switch. Current initialization proceedures cause the spotlight to be on when the display begins.

8 - amplitude scaling (dials D, E, and F)

Control dials are used to alter the amplitude of the display. Because up to three data windows may be displayed concurrently, their amplitude scaling is regulated separately by three different control dials.

9 - frequency sweep

This option caused continuous frequency sweeping of all spectra being displayed. Function switch 10 is used to reverse the direction of the sweep. When the frequency sweep option is turned off the lead point frequency of the display will remain at the chosen frequency as the display is updated.

10 - direction of sweep

Use of this function switch reverses the direction of the frequency sweep in either the continuous or single sweep mode.

11 - single sweep

The user is allowed to sweep the data in frequency one frequency increment with this function switch. Selection of function switch 10 will cause a reversal of the sweep direction.

13 - hard-copy

Each time that this function switch is depressed the

x-y coordinates of the current display are output to magnetic tape with a header record.

14 - endfile on hard-copy tape

This option allows the user to put an end of file mark on the hard-copy output tape. The plotting program expects an end of file mark at the termination of all data sets. The output tape will be rewound after the end of file is written.

Control parameters

ISFQ(?;512)	sampling rate in points per second (10)
NBC	number of box car averages (1) Several transforms may be averaged together to produce a spectrum on the screen.
MDLAY(?;10000)	scaling parameter
N1(?;1)	averaging parameter
WOINT(?;1.0)	sideline window intensity on AGT-10
ISQRT(0,1;1)	power option Power, the squares of the amplitudes of the Fourier coefficients, will be displayed on the AGT-10.
SLINT(?,1.0)	sideline intensity on AGT-10
SINT(?;1.0)	line intensity on AGT-10
WINT(?;0.5)	window intensity on AGT-10
LFT(?;8192)	length of transform in points

LAG(?;512)	lag between transforms in points
STRT1(?;3.5)	frequency of leadpoint of first window
IEOF(0,1;0)	flag to indicate multiple file input tape
ITAPE(?;1)	input tape unit number
LG10(0,1;0)	flag to take base 10 logarithm of transform before displaying it
LGNAT(0,1;0)	flag to take the base e log of the transform before displaying it
STRT2	frequency of the lead point of the second window
STRT3	frequency of the lead point of the third window
SAMPTS	number of sample points on time sequence (read from header record)
LGCNT	transform counter
LREC(?;1024)	length of input record
INITL(0,1;0)	initialization flag
ICARD(0,1;0)	card input flag
IREP(0,1;0)	repeat flag
IREWIND(0,1;0)	rewind flag
CSPI(0,1;0)	flag to obtain transforms from CSPI-125 (inoperative)
KNIFTY(0,1;0)	flag to signal transfer to NIFTY subroutine package
NONOISE(?;0)	noise subtraction from transforms

(see XFORM description)

Display parameters

IWIDE(?;10)	width of spotlight in points
NSL(0-3;2)	number of spotlights
ISWEEP	frequency sweep option
SWINC(?)	frequency sweep increment in Hz
SWU(?)	upper limit of frequency sweep
SwL(?)	lower limit of frequency sweep
ISCL(?;500)	inverse scale factor for display
NPT(0-150;128)	number of points per line on AGT display
LINE(0-10;10)	number of lines of transforms on AGT display
NGRP	number of harmonic groups
HARM1	harmonic window 1
HARM2	harmonic window 2
LSD(0,1;0)	side-line display option

Movie parameters

NFRAM	number of frames per second
NSHUT	shutter speed

Output parameters

IDATE	date: month, day, year
ISITE	site identification in BCD

Input Tape Format

Each sequence of time data must be preceeded by a standard header record in which the following parameters are specified:

word	value
1	number of 1024 records of time data If the number of sample points is not evenly divisible by 1024, an additional record is used.
2	event identification
3	date - month
4	date - day
5	date - year
6	site identification
7	number of channels
8	total number of sample points on seismogram
9	sampling rate in samples per second
10	time - hours
11	time - minutes
12	time - seconds

The header record is followed by the time samples which are

divided into records having a length of 1024 words. If not completely filled, the last record will be padded with zeros.

Hard-copy Output Tape Format

If data for plotting on the Versatek are desired, they may be recorded on magnetic tape and then taken to the PDP 11/50 system for further processing. Each record is 300 words long and all words are right justified. A complete plot will consist of eleven records: one header record and ten data records. The header record has the following format:

word	value
1	number of points per line
2	number of lines
3	x-increment (AGT)
4	y-increment (AGT)
5	current line pointer (AGT)
6	number of spotlights
7	center of spotlight 1
8	center of spotlight 2
9	center of spotlight 3
10	start time - hours
11	time - minutes
12	time - seconds

13	length of transform
14	lag between transforms
15	sampling rate of data
	site identification (BCD)
17	site identification (BCD)
18	site identification (BCD)
19	lead point of data currently being displayed on AGT
20	scale factor
21	date - month
22	date - day
23	date - year

The data records will consist of up to 150 x-y pairs per record.

To operate On-Line ESP:

1. mount program tape on MT3A and use a rerun deck to enter it
2. mount the input tape on MT1A and, if desired, an output tape on MT2A
3. a message will appear on the control console

   'SET UP AGT FOR ESP'
4. carry out this instruction by
   a. typing on the AGT control console

      RESET(4,4)!
   b. when disk activity has ceased, type

      ESP93!

Fast Fourier Transform Control Program

XFORM - Operating Summary

This program performs transforms on earthquake data. The description given here is for its stand-alone operation for which data are

input from and output to magnetic tape. The spacing, in points, between transforms can be specified by the user. The number of records for each time trace must be specified, NOREC, as well as the total number of grams to be transformed, NGM.

OPERATING PROCEEDURE:

This program is part of the EARTHQUAKE overlay package. It is called when

COMMAND ME is followed by

XFORM

with this program operating in core the user is issued a command for

PARAMETER INPUT

for which there are two options to type in on the terminal:

ICARD=0 resulting in no parameter input (in most cases an error)

ICARD=1 resulting in input from the card reader usually including

NOREC, NGM, and LAG.

The program will then start the transforms with the input data on tape unit 1 and the output on tape unit 2. After the transforms have been performed on a particular time sequence, an ENDFILE will be written and the following information will be output:

IFILE=the number of the file of the transforms, with respect to the first set of transforms

IREC=the number of records output for that particular set of transforms. Since these are recorded on 1K records, IREC = number of transforms.

Upon completion of all of the transforms, control will return to the main program, which again requests:

COMMAND ME.

Nifty

I. Description

NIFTY is a self-contained, general-purpose program for handling tapes. It is accessable in two forms: as a stand-alone program or as part of an overlay package. Once NIFTY is in the computer, its operating proceedure is the same regardless of its status as a main program or a subroutine. NIFTY maintains a dialogue with the operator, asking for input parameters and dispensing information.

II. Operating Proceedure

The reader is refered to the operating instructions of the various overlay packages when calling NIFTY as an overlay is desired. To use the stand-alone version, the NIFTY DRIVER and its Metasymbol subroutines are compiled.

When the program is in the computer and execution is begun, NIFTY takes the initiative asking:

```
WHAT DO YOU WANT TO DO
```

The user then responds by asking for one or more of six options, which are listed below in order of priority:

A. FILES = 1

skip a given number of files

B. RECORDS = 1

skip a given number of records

C. DUMP = 1

dump a record on the line printer

D. COPY = 1

copy a record from one tape to another

E. WEOF = 1

write an end of file on the tape

F. TAPRWD = 1

rewind the tape

these instructions should be followed by:

```
c/r *
c/r
```

Program control will be transfered to the subroutine designed to execute the requested option. In each case the operator will be asked to specify various parameters.

When NIFTY is party of an overlay an additional option allowing return to the main overlay segment is available. It is the KILL option. By typing KILL = 1, control is returned to the calling program.

III. NIFTY Subroutines

At the start of each subroutine, a message will be printed on the XDS 9300 teletype console. It will state SPECIFY and will be followed by a list of parameters which must be defined in order that the subroutine execute properly. If a subroutine is being called repeatedly, its parameters will be remembered between calls; however, if a different subroutine call preceeds the recall of a subroutine, the user is advised to play it safe and respecify all

parameters.

A. FILES

This subroutine will space a magnetic tape forward or backward the number of files requested by the operator. An error will result if either the beginning or end of tape mark is encountered, so the user is required to keep track of which file is currently being accessed and should know the total number of files on the tape.

SPECIFY NFILE, DIR, UNIT

where

NFILE = number of files to be skipped

DIR = direction 0 - forward; 1 - backward

UNIT = tape unit 1 or 2

B. RECORDS

By choosing this option it is possible to position the tape forward or backward a given number of records. An error will occur if the end of tape or beginning of tape marks are encountered and the user must remember where in the current file the tape is positioned.

SPECIFY UNIT, NREC, DIR

where

UNIT = tape unit 1 or 2

NREC = number of records to be skipped

DIR = direction 0 - forward; 1 - backward

c. DUMP

One can dump a few records of either a binary or BCD tape onto the lineprinter using this option.

SPECIFY LREC, NREC, MODE, UNIT

where

LREC = length of records

NREC = number of records

MODE = 1 for binary; 0 for BCD

UNIT = tape unit 1 or 2

d. COPY

By using this option, one tape can be copied onto another either as is or with a conversion from binary to BCD or vice versa. This is a convienent way of merging two tapes.

SPECIFY LREC, NREC, MODE, INUNIT, OTUNIT, EOF

where

LREC = length of records

NREC = number of records

INMODE = 1 for binary; 0 for BCD on input tape

OTMODE = 1 for binary; 0 for BCD on output tape

INUNIT = input tape unit

OUTUNIT = output tape unit

EOF = end of file option for output tape.

1 to write an endfile after copying is completed

0 for no endfile mark

e. WRTEOF

This option allows the user to write an end of file on a tape with no other tape activity or with a subsequent rewind.

SPECIFY UNIT, RWOPTN

where

UNIT = tape unit 1 or 2

RWOPTN = option to rewind the tape after the EOF.

1 for rewind

0 for no rewind

f. TAPRWD

The specified tape unit is rewound.

SPECIFY UNIT

where

UNIT = tape unit 1 or 2

Each list of specifications should be followed by * c/r

Some of these subroutines will send messages to the user upon completion of the operation, then the program will return and reissue its original request:

WHAT DO YOU WANT TO DO

```
 ESP - XFØRM CØNTRØL PRØGRAM

 INTEGER PTR,CSPI
 INTEGER XFCT,XCNT,SAMPTS
 CØMMØN IP,LINE,NGRP,NPIG,NSL,ITIME,LFTIME,IRESØ,LG(3),
* IHARM1,IHARM2,IWIDE,NFRAM,NSHUT,INTL,INTS,INTSL,INTLØ,NPT,
* LAG,MDLAY,IEØF,LFT,N1,KILL,ITAPE,NBC,INITL,ICARD,
* MTAPE,ISWEEP,ISGRT,ISCL,IREP,CSPI,ISTUP(3),
* LP(3),LGRP,ISCP,LSPEC,NREC,NCTR,IPTR,LPTR,LSD,IDISPY,
* ISCAN,ISCAL,IFILE,IAB,JAB,IREWIND,STRT1,STRT2,STRT3,
* HARM1,WINT,SINT,SLINT,WØINT,HARM2,SWINC,SWL,SWU,SINC,IFLAG,
* PTR,ICTR,ISHT,NØREC,ISTAR,TF,ISWI,ISWU,ISWL,IØPTN,NP
* ,KNIFTY,NØNØISE,XFCT,XCNT,LG10,LGNAT,IDATE(3),ISITE,LGCNT,
* SAMPTS,ISFQ

 NAMELIST KNIFTY,NØNØISE


 CALL UPSET
 ØUTPUT(102) 'SETUP AGT FØR ESP'
 INPUT(101)
 ISTAR = 1
 IF(KNIFTY .EQ. 1) KNIFTY = 0; CALL NIFTY
 CALL ESP
 IF(KNIFTY .EQ. 1) KNIFTY = 0; CALL NIFTY; GØ TØ 10
 IF(KILL .EQ.1) KILL = 0; ØUTPUT(102) 'STP'; INPUT(101)
 IF(CSPI .EQ. 1) GØ TØ 20
 CALL XFØRM
 GØ TØ 10
 ØUTPUT(102) 'CIRCUS'
 GØ TØ 10
 END
```

```
   PAGE
   EQU      5
   EQU      4

   FORREC  BAKREC      SPACE THE TAPE EITHER FORWARD OR
   BACKWARD I RECORDS
   CALLS       9SETUPN, R/IOPS
   CALLED BY       MAIN PROGRAM
   CALL BAKREC(N,I)    N = UNIT, I = NO.OF RECORDS


REC PZE      0
   LDA      BAKREC
   STA      FORREC
   BRU      FORREC+1


REC PZE     0
   BRM      9SETUPN
   PZE      2
T  PZE      0                 ;UNIT
C  PZE      0                 ;NO. OF RECORDS
   LDA      *FUNIT
   STA      FUNT
   BRM      ASGN
   PZE      1
   PZE      0
   LDA      ARFDT
   ADD      =03000000
   STA      FOCAL
   LDA      *FNREC
   SKU      =0
   BRU      RCEND
   LDB      BAKREC
   SKB      =077777           ;GO BACKWARDS
   BRU      $+2
   COPY     (-A,A)
   STA      TFDT+4
   BRM      R\IOPS
   PZE      1
L  PZE      0
   SKN      TFDT
   BRU      $+2
   BRU      $-2
D  STZ      BAKREC
   BRR      FORREC
   PAGE

   BAKSCN  FORSCN  SCANS FORWARD OR BACKWARD ON A TAPE FOR A
   KEYWORD OR AN END FILE MARK
   CALLS       9SETUPN, R/IOPS, BCDCVT, ASGN
   CALLED BY       MAIN PROGRAM
```

```
CN PZE      0
  LDA       BAKSCN
  STA       FØRSCN
  BRU       FØRSCN+1


CN PZE      0
  BRM       ØSETUPN
  PZE       2
  PZE       0
  PZE       0
  STZ       CØUNT
  LDA       *SUNIT
  STA       SUNT
  BRM       ASGN               ;SEARCH SYMBØL TABLE
  PZE       1
  PZE       0
  LDA       =0600              ;600 - 4 CHARACTER/WØRD
  STA       MØDE               ;STØRE MØDE IN FDT
  LDA       =017170000         ;PUT EØF KEYWØRD IN FDT
  STA       TFDT+4
  LDA       *SEØF              ;GET NØ. ØF EØF'S
  SKU       =0
  BRU       FEND
  SUB       =1
  STA       CØUNT
  LDB       BAKSCN
  LDA       ARFDT
  ADD       =02000000
  SKB       =077777            ;SCAN BACKWARDS
  BRU       $+2                ;NØ
  ADD       =00100000
  STA       SCNCAL
  BRM       R\IØPS
  PZE       1
L PZE       0
  SKN       TFDT
  BRU       $+2
  BRU       $-2                ;NØ
  LDA       TFDT
  SKU       =06000000          ;BEGIN ØR END TAPE
  BRU       FEND
  LDA       *SEØF
  SKU       =0
  BRU       CNTR
  LDA       TFDT
  SKE       =010000000
 BRU       DØIØ
  SKR       CØUNT
  BRU       DØIØ
  LDA       BAKSCN             ;WAS THERE BACKSCANNING
  SKU       =0
  BRU       FEND
  LDA       SUNIT
```

```
  STA     PLC3
  LDA     1
  STA     PLC4
  BRM     FORREC          ;GO FORWARD 1 RECORD TO GET PAST THE EOF
  PZE     2
  PZE     0
  PZE     0
  STZ     BAKSCN
  BRR     FORSCN


T PZE     0
  PAGE

  BCDCVT     CONVERTS A WORD TO BCD
  CALLS      NONE
  CALLED BY       ASGN, FORSCN, BAKSCN


CVT PZE   0
  BRM     9SETUPN
  PZE     1
  PZE     0
  STX     STORE,1
  LDX     =0200000-4,1
  LDA     =060606060
  STA     NAMTAB
  STA     NAMTAB+1
P LDB     WORD
  ALSB    1
  COPY    (0,A)
  DIV     =10
  COPY    (A,B),(B,A)
  STB     WORD
  LDB     MASK
  STS     NAMTAB
  LDA     NAMTAB
  CRSA     6
  STA     NAMTAB
  BRX     DLOOP,1
  BRU     ELOOP
P LDA     WORD
  SKE     =0
  BRU     CLOOP
P LDX     STORE,1
  BRR     BCDCVT
E PZE     0
  PZE     077
  PAGE

  ASGN      FINDS SYMBOL TABLE ADDRESS OF TAPE UNIT
  CALLS      R/RSTS
 CALLED BY   ALL TAPE HANDLING SUBROUTINES
  WILL CAUSE AN ABORT IF AN ADDRESS CORRESPONDING TO THE  UNIT
  IS NOT FOUND
```

```



N  PZE     0
   BRM     9SETUPN
   PZE     1
   PZE     0
   LDA     TUNT
   STA     ASGN1
   BRM     BCDCVT
   PZE     1
1  PZE     0
2  BRM     R\RSTS
   PZE     1
   PZE     NAMTAB
    SKU     =0
   BRU     TERR
   STA     TFDT+5
   BRR     ASGN
   LDA     NAMTAB
   STA     MSG+1
   BRM     R\ABRT
   PZE     1
   PZE     MSG


AB TEXT    8,
   PZE     3

   PZE     4
   TEXT    16,      NØT FØUND



T  PZE     TFDT

   PZE     0
   PZE     0
   PZE     0
   PZE     0
CT PZE     0
   PZE     0
   PZE     0

   PAGE

   BCDIN/ØUT   BININ/ØUT    READ ØR WRITE A TAPE IN EITHER BCD ØR
   BINARY
   CALLS      ASGN, 9SETUPN, R/IØPS
   CALLED BY      MAIN PRØGRAM

ØUT PZE     0
   LDA     BINØUT
   STA     BCDØUT
   STA     BCDIN
```

```
  LDA    =01
  STA    BINFLG
  BRU    BCDIN+1


  PZE    0
  LDA    BININ
  STA    BCDIN
  LDA    =01
  STA    BINFLG
  BRU    BCDIN+1


T PZE    0
  LDA    BCDØUT
  STA    BCDIN
  BRU    BCDIN+1


  PZE    0
  BRM    9SETUPN
  PZE    4
  PZE    0                  ;TAPE UNIT
  PZE    0                  ;BUFFER ADDRESS
  PZE    0                  ;RECØRD LENGTH
  PZE    0
  STZ    *BIND
  LDA    *BUNIT
  STA    BUNT
  BRM    ASGN
  PZE    1
  PZE    0
  LDA    =0600
  LDB    BINFLG
  SKB    =077777            ;IS FLAG SET - BINARY
  BRU    $+2
  ADD    =01000             ;YES
  STA    MØDE
  STZ    BINFLG
  LDA    BBUF
  LDB    *BREC
  STD    TFDT+1
  LDA    ARFDT              ;FDT ADDRESS
  LDB    BCDØUT
  SKB    =077777            ;ØUTPUT
  BRU    $+2                ;NØ
  ADD    =04000000          ;YES
  STA    BCAL
  STZ    BCDØUT
  BRM    R\IØPS
  PZE    1
  PZE    0
  SKN    TFDT
  BRU    $+2
  BRU    $-2
```

```
LDB     TFDT
SKB     =016000000
BRU     BFIN
LDA     =01
STA     *BIND
STZ     BINFLG
BRR     BCDIN


PZE    0
PAGE

WEOF      WRITES AN END OF FILE WITH AN OPTION TO REWIND THE
 TAPE AT THE USER'S REQUEST
CALLS      OSETUPN, R/IOPS, RWND
CALLED BY      MAIN PROGRAM
CALL WEOF(N,IR)      N=UNIT, IR=0 OR 1 - NO REWIND OR REWIND


PZE     0
BRM     OSETUPN
PZE     2
PZE     0
PZE     0
LDA     *WUNIT
STA     WUNT
BRM     ASGN            ;SEARCH SYMBOL TABLE
PZE     1
PZE     0
LDA     ARFDT           ;FDT ADDRESS
ADD     =03100000       ;OP CODE FOR ENDFILE
LDB     *WFLAG          ;REWIND FLAG
SKB     =077777
BRU     $+2
ADD     =00200000
STA     WECAL           ;STORE OP CODE + FDT ADDRESS
BRM     R\IOPS
PZE     1
PZE     0
SKN     TFDT
BRU     $+2
BRU     $-2
BRR     WEOF
PAGE

PZE     0
BRM     OSETUPN
PZE     1
PZE     0
LDA     *RUNIT
STA     RUNT
BRM     ASGN            ;GO SEARCH SYMBL TABLE
PZE     1
PZE     0
LDA     ARFDT           ;FDT ADDRESS
```

```
  ADD     =03200000      ;OP CODE FOR REWIND
  STA     RWCAL         ;STORE IN CALLING SEQUENCE
  BRM     R\IOPS
  PZE     1
A PZE     0
  SKN     TFDT
  BRU     $+2
  BRU     $-2
  BRR     RWND


  OPD     03200000
  OPD     04000000
  PZE     0
  STZ     8E9FFLAG
  MPO     CLR
  BRR     CLR

  CALL WIRTE (IFILE,IBUF

E PZE     0
  LDA     WRITE
  STA     READD
  BRU     READD+1

  CALL READD (IFILE,IBUF,NWORD)

D PZE     0
  BRM     9SETUPN
  PZE     3
  PZE     0
  PZE     0
  PZE     0
  STX     SAVE,1
  LDA     *IFILE
  SUB     =10
  COPY    (5,1)
  LDA     FILE,1
  STA     LOOK
  BRM     R\RSTS
  PZE     1
  PZE     LOOK
  SKU     R\ZERO
  BRU     NOFILE
  COPY    (5,1)
  LDA     0,1
  COPY    (5,1)
  LDA     2,1
  STA     SECT
  LDA     IBUF
  LDB     *NWORD
  STD     BUF
  LDA     READOP
  LDB     WRITE
  SKB     =077777
```

```
  BRU     $+2
  ADD     =04000000
  STZ     WRITE
  STA     IØØP
  BRM     R\IØPS
  PZE     1
  PZE     0
  LDX     =0100000,1
  SKN     FDT
  BRU     ERCK
  BRX     $-2,1
  LDA     011
  STA     $+1
  PZE     0
  NØP
  LDA     FDT
  SKA     ERRØR
  BRU     READER
  LDX     SAVE,1
  BRR     READD

R LDP     RER
  BRU     PRINT
  PZE     $+2
  PZE     5
  TEXT    16,DISK IØ ERRØR
  DATA    060605252

E LDP     FER
  BRU     PRINT
  PZE     $+2
  PZE     5
  TEXT    16,FILE NØT FØUND
  DATA    060605252

  STD     ERBUF
  BRM     R\IØPS
  PZE     1
  WRIT    ERFDT
  SKN     ERFDT
  BRR     READD
  BRU     $-2



  PZE     0
  PZE     0
  PZE     0
  PZE     03600
  PZE     0
  PZE     R\SYST
  PZE     0

  TEXT    4,10
  TEXT    4,11
```

```
TEXT     4,12                                                              0440
TEXT     4,13                                                              0441
TEXT     4,14                                                              0442
TEXT     4,15                                                              0443
TEXT     4,16                                                              0444
TEXT     4,17                                                              0445
TEXT     4,18                                                              0446
TEXT     4,19                                                              0447
TEXT     4,20                                                              0448
TEXT     4,21                                                              0449
TEXT     4,22                                                              0450
TEXT     4,23                                                              0451
TEXT     4,24                                                              0452
TEXT     4,25                                                              0453
TEXT     4,26                                                              0454
TEXT     4,27                                                              0455
TEXT     4,28                                                              0456
TEXT     4,29                                                              0457
TEXT     4,30                                                              0458
TEXT     4,31                                                              0459
TEXT     4,32                                                              0460
TEXT     4,33                                                              0461
TEXT     4,34                                                              0462
TEXT     4,35                                                              0463
TEXT     4,36                                                              0464
TEXT     4,37                                                              0465
TEXT     4,38                                                              0466
TEXT     4,39                                                              0467
TEXT     4,40                                                              0468
TEXT     4,41                                                              0469
TEXT     4,42                                                              0470
TEXT     4,43                                                              0471
TEXT     4,44                                                              0472
TEXT     4,45                                                              0473
TEXT     4,46                                                              0474
TEXT     4,47                                                              0475
TEXT     4,48                                                              0476
TEXT     4,49                                                              0477
TEXT     4,50                                                              0478
TEXT     4,51                                                              0479
TEXT     4,52                                                              0480
TEXT     4,53                                                              0481
TEXT     4,54                                                              0482
TEXT     4,55                                                              0483
TEXT     4,56                                                              0484
TEXT     4,57                                                              0485
TEXT     4,58                                                              0486
TEXT     4,59                                                              0487
TEXT     4,60                                                              0488
TEXT     4,61                                                              0489
TEXT     4,62                                                              0490
TEXT     4,63                                                              0491
TEXT     4,64                                                              0492
TEXT     4,65                                                              0493
TEXT     4,66                                                              0494
```

```
  TEXT    4,67
  TEXT    4,68
  TEXT    4,69

  PZE     0
  TEXT    4,
  PZE     3

  DATA    020000000
  PZE     0
P PZE     FDT
  PZE     0
  PZE     0
  PZE     0
  PZE     02600
  PZE     0
  PZE     R\CØNS
  PZE     0
  END
```

```
 SUBROUTINE UPSET
 INTEGER PTR,CSPI
 INTEGER XFCT,XCNT,SAMPTS
 COMMON IP,LINE,NGRP,NPIG,NSL,ITIME,LFTIME,IRESO,LG(3),
*  IHARM1,IHARM2,IWIDE,NFRAM,NSHUT,INTL,INTS,INTSL,INTLO,NPT,
*  LAG,MDLAY,IEOF,LFT,N1,KILL,ITAPE,NBC,INITL,ICARD,
*  MTAPE,ISWEEP,ISQRT,ISCL,IREP,CSPI,ISTUP(3),
*  LP(3),LGRP,ISCP,LSPEC,NREC,NCTR,IPTR,LPTR,LSD,IDISPY,
*  ISCAN,ISCAL,IFILE,IAB,JAB,IREWIND,STRT1,STRT2,STRT3,
*  HARM1,WINT,SINT,SLINT,WOINT,HARM2,SWINC,SWL,SWU,SINC,IFLAG,
*  PTR,ICTR,ISHT,NOREC,ISTAR,TF,ISWI,ISWU,ISWL,IOPTN,NP
*  ,KNIFTY,NONOISE,XFCT,XCNT,LG10,LGNAT,IDATE(3),ISITE,LGCNT,
*  SAMPTS,ISFQ
 NONOISE = 0
 LINE = 10
 NGRP=NSL=LAG=N1=ITAPE=1
 NPT = 150
 ISFQ = 512
 STRT1 = 3.5
 STRT2 = 0.
 STRT3 = 0.
 HARM1 = HARM2 = 0.
 LFT = 8192
 WINT = 0.5
 SINT=SLINT=WOINT=1.0
 ISKIP = IFLAG = 0
 NBC = 5
 NSKIP = LSD = 0
 IWIDE = 10
 NP = 20
 CSPI = KILL = ISWEEP = KNIFTY = 0
 SWL = 0.
 SWU = 150.
 SWINC = .5
 ISCL = 16
 RETURN
 END
```

```
 SUBROUTINE ESP
 ESP

 THIS IS A MODIFICATION OF THE BASIC ESP SO THAT THE INPUT
 TRANSFORMS ARE DONE ON LINE



 INTEGER DTFILE,XFILE,CSPI,PTR,IAVFILE,KJREC,LREC,KREC
 INTEGER XFCT,XCNT,SAMPTS
 DIMENSION IDUM(20),IW(3),NULG(3),IKEEP(7)
 DIMENSION LKDAT(1500),IVERB(300)
 DIMENSION LDATA(150,10),IBUF(4096),IAV(4096)
 COMMON IP,LINE,NGRP,NPIG,NSL,ITIME,LFTIME,IRESO,LG(3),
* IHARM1,IHARM2,IWIDE,NFRAM,NSHUT,INTL,INTS,INTSL,INTLO,NPT,
* LAG,MDLAY,IEOF,LFT,N1,KILL,ITAPE,NBC,INITL,ICARD,
* MTAPE,ISWEEP,ISQRT,ISCL,IREP,CSPI,ISTUP(3),
* LP(3),LGRP,ISCP,LSPEC,NREC,NCTR,IPTR,LPTR,LSD,IDISPY,
* ISCAN,ISCAL,IFILE,IAB,JAB,IREWIND,STRT1,STRT2,STRT3,
* HARM1,WINT,SINT,SLINT,WOINT,HARM2,SWINC,SWL,SWU,SINC,IFLAG,
* PTR,ICTR,ISHT,NOREC,ISTAR,TF,ISWI,ISWU,ISWL,IOPTN,NP
* ,KNIFTY,NONOISE,XFCT,XCNT,LG10,LGNAT,IDATE(3),ISITE,LGCNT,
* SAMPTS,ISFQ

 EQUIVALENCE(LKDAT,LDATA)
 EQUIVALENCE(IDATE,IKEEP)
 EQUIVALENCE(IVERB,IBUF)

 NAMELIST LINE,NGRP,NPT,NSL,IT,LAG,ISFQ,STRT1,STRT2,STRT3,HARM1,
* WINT,SINT,SLINT,WOINT,NFRAM,NSHUT,MDLAY,IEOF,IDATE,SAMPTS,
* ISITE,LGCNT,
C  HARM2,LFT,N1,LREC,ITAPE,NBC,INITL,ICARD,NSKIP,IWIDE,MTAPE
 NAMELIST SWINC,ISWEEP,SWL,SWU,ISQRT,SINC,ISCL,ISKIP,IREP
 NAMELIST IREWIND,CSPI,LSD,KNIFTY,NONOISE,LG10,LGNAT
 DATA DTFILE/45/,IAVFILE/46/,KJREC/4096/,XFILE/10/,LREC/1024/,
*  KREC/2048/,IVTAPE/2/

 ISW(I)=LAND(IW(1),LLS(1,24-I))
 JSW(I)=LAND(IW(2),LLS(1,24-I))


YBOARD INPUT

 GO TO (10,20,120) ISTAR
 INITL=1
 OUTPUT(102) 'DATA INPUT'
 INPUT(101)
 IF(KNIFTY .EQ. 1) ISTAR = 2; RETURN
 IF(ICARD .EQ. 1) INPUT(5)
 ICARD=0
 IF(INITL.EQ.0) GO TO 100

ITIALIZATION
```

```
CALL PRESET


TIATE AGT DISPLAY

CALL CØRMØV(IP,NP,IDUM)
CALL SEND(3,IDUM,NP)

INTEGRATIØN

XFCT = 0
DØ 110 I=1,LSPEC
IAV(I)=0

DØ 150 IAB = 1,N1
DØ 150 JAB = 1,NREC
ISTAR = 3
IF(XFCT .NE. 0) GØ TØ 120
CALL DEATH
RETURN
CALL BIRTH
IF(IFLAG .EQ. 777) GØ TØ 300
NEØF=0
N = (JAB -1)*LREC
DØ 140 K=1,LREC
IAV(N+K)=IAV(N+K)+IBUF(K)/N1
CØNTINUE

NFT=NFT+N1

ATE BØX CAR

IFILE = IPTR + 30
CALL WRITE(IFILE,IAV,LSPEC)
IPTR = MØD(IPTR+1,NBC)

E LINE DISPLAY ØPTIØN

IF(LSD.EQ.0) GØ TØ 160
DØ 155 I=1,NGRP
M=LP(I)
N=(I-1)*NPIG
DØ 155 J=1,NPIG
ITEMP=IAV(M+J)/ISCL
CALL ADJUST
IAV(N+J)=ITEMP
CALL SEND(5,IAV,NPT)

NCTR=NCTR+1
IF(NCTR.LT.NBC)GØ TØ 100

X CAR AVERAGING

DØ 205 I=1,LSPEC
IAV(I)=0
```

```
IF(ISWEEP.EQ.0)GØ TØ 220

DØ 210 I=1,NBC
IFILE = I + 29
CALL READD(IFILE,IBUF,LSPEC)

DØ 210 J=1,LSPEC
IAV(J)=IAV(J)+IBUF(J)/NBC

IFILE = LPTR + 35
CALL WRITE(IFILE,IAV,LSPEC)
GØ TØ 240

DØ 230 I=1,NBC
IFILE = I + 29
CALL READD(IFILE,IBUF,LSPEC)
DØ 230 J=1,NGRP
N=LP(J)
DØ 230 K=1,NPIG
M=(J-1)*NPIG
IAV(M+K)=IAV(M+K)+IBUF(N+K)/NBC

ATE DISPLAY DATA

DØ 250 I=1,NGRP
N=(I-1)*NPIG
M=LP(I)

DØ 250 J=1,NPIG
ITEMP=IAV(M+J)/ISCL
CALL ADJUST
LDATA(N+J,LPTR+1)=ITEMP
CALL SEND(6,LDATA(1,LPTR+1),NPT)
LPTR = MØD(LPTR+1,LINE)



CALL CØRMØV(ISTUP,3,IW)
CALL SEND(1,IW,1)
IW(2)=LXØR(IW(1),IW(3))
IW(3)=IW(1)
CALL CØRMØV(IW,3,ISTUP)
IF(ISW(1).NE.0)GØ TØ 280
IF(JSW(2).NE.0)LSD=MØD(LSD+1,2);CALL SEND(4,0,0)
IF(ISW(3).NE.0)CALL SEND(7,0,0)
IF(JSW(4).NE.0)IDISPY=MØD(IDISPY+1,2)
IF(ISW(5).NE.0)CALL SEND(16B,0,0)
IF(JSW(6).NE.0)CALL SEND(15B,0,0)
IF(JSW(7).NE.0)CALL SEND(14B,0,0)
ISCAL=0
IF(ISW(8).NE.0)ISCAL=1;CALL SCALE
ISCAN=0
IF(ISW(9).NE.0)ISCAN=1;CALL SCAN
IF(ISW(11).NE.0)CALL SCAN
IF(ISW(13) .NE. 0) CALL VERSA
```

```
IF(ISW(18).NE.0)MDLAY=MDLAY;CALL DELAY;CALL SEND(11B,0,0)
IF(ISW(19).NE. 0) CALL INPUT;CALL SETI;CALL SEND(3,IDUM,NP)
IF(NGRP.EQ.LGRP)GØ TØ 270
CALL REGRP
LGRP=NGRP
IHØLD=ISCAN+ISCAL+IDISPY
IF(IHØLD.NE.0)GØ TØ 260
IF(NEØF.NE.0)GØ TØ 260
IF(SENSESWITCH 6)280,100
CALL SEND(0,0,0)
IF(ISW(14) .NE. 0) CALL WEØF(IVTAPE,1)
CALL INPUT
CALL SETI
IF(IREWIND .EQ. 0) CALL RWND(ITAPE)
IF(IREWIND .EQ. 1) CALL BAKREC(ITAPE,NØREC); CALL FØRSCN(ITAPE,1)
GET PAST END ØF FILE MARK SEPARATING TIME SEQUENCES
GET PAST END ØF FILE MARK SEPARATING TIME SEQUENCES
IF(IREP.EQ.1)IREP=0;GØ TØ 30
IF(IEØF.NE.0)ICARD=1
INITL=1
IF(ICARD.EQ.1)GØ TØ 20
KILL = 1
ISTAR = 1
RETURN
NEØF=NEØF+1
CALL CLREØF
GØ TØ 260



SUBRØUTINE PRESET
CALL BININ(ITAPE,IBUF,LREC,IND)
NØREC = IBUF(1)
DØ 31 I = 1,7
IKEEP(I) = IBUF(2+I)
LGCNT = 0
INITL=0
LGRP=NGRP
ISCP=ISCL
CALL SETI
LSPEC=LFT/2
XCNT = LREC/LSPEC
NREC=LSPEC/LREC
IF(NREC .LE. 0) NREC = 1
ITIME = IBUF(12)+60*(IBUF(11)+60*IBUF(10))
NCTR=IPTR=LPTR=0
LSD=0
IDISPY=ISCAN=ISCAL=0
IW(1)=IW(2)=IW(3)=0
DØ 33 I=1,LSPEC
IBUF(I)=0
DØ 34 I=1,LINE
IFILE = I + 34
CALL WRITE(IFILE,IBUF,LSPEC)
DØ 35 I=1,LINE
```

```
DO 35 J=1,NPT
LDATA(J,I)=0
PTR = 1
IFLAG = 0
ISHT = 0
RETURN



SUBROUTINE BIRTH
IF(XFCT .NE. 0) GO TO 25
CALL READD(IAVFILE,IAV,KJREC)
CALL READD(DTFILE,IBUF,KJREC)
DO 20 IV = 1,1500
LKDAT(IV) = IBUF(500+IV)
IF(CSPI .EQ. 0) GO TO 30
XFILE = 47
CALL READD(XFILE,IBUF,KJREC)
LGCNT = LGCNT + 1
RETURN
CALL READD(XFILE,IBUF,KREC)
LGCNT = LGCNT + 1
MA = XFCT * LSPEC
DO 40 IV = 1,LSPEC
IBUF(IV) = IBUF(MA+IV)
XFCT = MOD(XFCT+1,XCNT)
IF(LGCNT .GE. (SAMPTS-LFT)/LAG) IFLAG = 777
RETURN



SUBROUTINE DEATH
DO 10 IV = 1,1500
IBUF(500+IV) = LKDAT(IV)
CALL WRITE(DTFILE,IBUF,KJREC)
CALL WRITE(IAVFILE,IAV,KJREC)
RETURN







SUBROUTINE SCAN
IF(ISWEEP.EQ.0)RETURN
ISGN=0
IF(ISW(10).NE.0)ISGN=-1
DO 10 I=1,NGRP
LP(I)=LP(I)+ISIGN(ISWI,ISGN)
IF(I.NE.1)GO TO 10
IF(LP(I).LT.ISWL)LP(I)=LP(I)-ISIGN(ISWI,ISGN);RETURN
IF(LP(I).GT.ISWU)LP(I)=LP(I)-ISIGN(ISWI,ISGN);RETURN
CONTINUE
DO 20 I=1,NGRP
```

```
LG(I)=LG(I)+ISIGN(ISWI,ISGN)
IF(NGRP.EQ.1)LP(3)=LP(2)=LP(1);LG(3)=LG(2)=LG(1)
CALL RECON
CALL CORMOV(LG,3,NULG)
CALL SEND(13B,NULG,3)
CALL CORMOV(NULG,3,LG)
IF(LSD.NE.0)CALL SIDE
RETURN




SUBROUTINE RECON
N=LPTR-1
IF(N.LT.0)N=LINE-1
DO 20 I=1,LINE
IFILE = N + 35
CALL READD(IFILE,IBUF,LSPEC)
DO 15 J=1,NGRP
L=(J-1)*NPIG
M=LP(J)
DO 15 K=1,NPIG
ITEMP=IBUF(M+K)/ISCL
CALL ADJUST
LDATA(L+K,N+1)=ITEMP
CALL SEND(12B,LDATA(1,N+1),NPT)
N=N-1
IF(N.LT.0)N=LINE-1
CONTINUE
RETURN



SUBROUTINE SIDE
N=IPTR-1
IF(N.LT.0)N=NBC-1
IFILE = N + 30
CALL READD(IFILE,IBUF,LSPEC)
DO 25 I=1,NGRP
L=(I-1)*NPIG
M=LP(I)
DO 25 J=1,NPIG
ITEMP=IBUF(M+J)/ISCL
CALL ADJUST
IAV(L+J)=ITEMP
CALL SEND(5,IAV,NPT)
RETURN



SUBROUTINE REGRP
CALL SEND(17B,0,0)
CALL RECON
IF(LSD.NE.0)CALL SIDE
RETURN

```

```
SUBRØUTINE SETI
TF = LFT/ISFQ
IRESØ=TF
NFTIME = LAG/ISFQ
LFTIME=NFTIME*N1
NPIG=NPT/NGRP
LP(1)=STRT1*TF-NPIG/2
LP(2)=(STRT2+HARM1*STRT1)*TF-NPIG/2
LP(3)=(STRT3+HARM2*STRT1)*TF-NPIG/2
DØ 10 I = 1,3
IF(LP(I) .LE. 0) LP(I) = 1
LG(I) = LP(I) - (I-1)*NPIG
IF(NGRP.EQ.1)LP(3)=LP(2)=LP(1);LG(3)=LG(2)=LG(1)
IHARM1=2**9*HARM1
IHARM2=2**9*HARM2
IP=SINC*TF
ISWI=SWINC*TF
ISWU=SWU*TF
ISWL=SWL*TF
INTL=WINT*8192
INTS=SINT*8192
INTSL=SLINT*8192
INTLØ=WØINT*8192
IF(ISCL.EQ.ISCP)GØ TØ 30
CALL RECØN
IF(LSD.NE.0)CALL SIDE
ISCP=ISCL
CALL CØRMØV(IP,NP,IDUM)
RETURN



SUBRØUTINE SCALE
CALL SEND(10B,IØPTN,1)
IF(IØPTN.LT.0)RETURN
N=LPTR-1
IF(N.LT.0)N=LINE-1
DØ 10 I=1,LINE
CALL SEND(10B,LDATA(1,N+1),NPT)
N=N-1
IF(N.LT.0) N=LINE-1
CØNTINUE
IF(LSD.NE.0)CALL SIDE
RETURN


SUBRØUTINE TØ DUMP DISPLAY ØN TAPE

SUBRØUTINE VERSA

DESCRIPTIØN ØF HEADER RECØRD
1    NUMBER ØF PØINTS
2    NUMBER ØF LINES
```

```
3    X INCREMENT
4    Y INCREMENT
5    CURRENT LINE PØINTER
6    NUMBER ØF SPØTLIGHTS
7    CENTER ØF SPØTLIGHT 1
8    CENTER ØF SPØTLIGHT 2
9    CENTER ØF SPØTLIGHT 3
10   TIME HØURS
11   TIME MINUTES
12   TIME SECØNDS
13   FFT LENGTH
14   FFT LAG
15   SAMPLING RATE
16   SITE IDENTIFICATIØN
17   SITE IDENTIFICATIØN
18   SITE IDENTIFICATIØN
19   LEAD PØINT
20   SCALE
21   MØNTH
22   DAY
23   YEAR

DØ 10 IV = 1,300
IVERB(IV) = 0
CALL SEND(20B,IVERB,NPT*2)
IF(ISW(15) .NE. 0) IVERB(6) = -1

FUNCTIØN SWITCH 15  -  NØ SPØTLIGHT FØR HARDCØPY ØUTPUT

IVERB(12) = ITIME + (LGCNT*LAG)/ISFQ
IVERB(10) = IVERB(12) / 3600
IVERB(11) = (IVERB(12) - IVERB(10)*3600)/60
IVERB(12) = IVERB(12) - 60*(IVERB(11) + 60*IVERB(10))
IVERB(13) = LFT
IVERB(14) = LAG
IVERB(15) = ISFQ
CALL IDFIX(ISITE,JSITE)
IVERB(16) = JSITE
IVERB(17) = IVERB(18) = 0
IVERB(19) = LP(1)
IVERB(20) = ISCL
IVERB(21) = IDATE(1)
IVERB(22) = IDATE(2)
IVERB(23) = IDATE(3)
CALL BINØUT(IVTAPE,IVERB,NPT*2,IND)
DØ 40 IV = 1,LINE
CALL SEND(20B,IVERB,NPT*2)
CALL BINØUT(IVTAPE,IVERB,NPT*2,IND)
CØNTINUE
RETURN



SUBRØUTINE ADJUST
```

```
IF(ISQRT .NE. 0) ITEMP=ITEMP**2;IF(ITEMP.LT.0) ITEMP=2**14-1
IF(ITEMP .EQ. 0) ITEMP = 1
IF(LG10 .NE. 0) ITEMP = 1000*(ALØG10(FLØAT(ITEMP)))
IF(LGNAT .NE. 0) ITEMP = 1000*(ALØG(FLØAT(ITEMP)))
IF(ITEMP .LT. -2**14-1) ITEMP = -2**14-1
IF(ITEMP .GT. 2**14-1) ITEMP = 2**14-1
RETURN
END
```

```
                                                                                   0001
PZE      0                                                                         0002
BRM      9SETUPN                                                                   0003
PZE      2                                                                         0004
PZE      0                                                                         0005
PZE      0                                                                         0006
LDA      *SITE                                                                     0007
LRSA      014                                                                      0008
STA      *SIT2                                                                     0009
BRR      IDFIX                                                                     0010
END
```

```
V PZE     0
 BRM      ØSETUPN
 PZE      3
 PZE      0
 PZE      0
 PZE      0
 STZ      CTR
 LDA      *CIP
 STA      *CIDUM
 LDA      CIP
 ADD      =01
 STA      CIP
 LDA      CIDUM
 ADD      =01
 STA      CIDUM
 LDA      CTR
 ADD      =01
 STA      CTR
 SKE      *CNP
 BRU      LØØP
 BRR      CØRMØV
  PZE      0
 END
```

```



F PZE     0
 STZ      8EØFFLAG
 MPØ      CLREØF
BRR       CLREØF



RØUTINE TØ SEND MESSAGR TØ AGT

 PZE      0
 BRM      9SETUPN
 PZE      3
 PZE      0
 PZE      0
 PZE      0
 LDA      *NCØDE            GET CØDE
 LLSA     15                PACK BUFFER ADDRESS
 STA      TEMP
 LDA      NBUF
 ETR      =077777
 ADD      TEMP
 LDB      *NWD              GET WØRD CØUNT
 LLSB     15
 STD      SWØ               SEND MESSAGE
 EØM      032020            SEND INTERRUPT
 SKN      SWØ               WAIT FØR ACCESS
 BRU      $-1
 BRR      SEND
 PZE      0
 DATA     040000000
 EQU      077774
 EQU      077776

RØUTINE FØR GRAPHIC INPUT

 PZE      0
 LDA      INPADR            GET 9INPUT BUFFER
 ADD      BUF
 STA      IBUF
 LDA      INPADR            GET PATCH ADDRESS
 ADD      READ
 STA      PATCH
 LDA      BRM               PATCH 9INPUT TØ RECEIVE CHARACTERS
 XMA      *PATCH
 STA      BRM
 BRM      9INPUT            INPUT STRING
 LDA      BRM               RESTØRE PATCH
 XMA      *PATCH
 STA      BRM
 MPØ      INPUT
 BRR      INPUT
```

```
RM      INP
ZE      0
M       SEND
PZE     3
PZE     =2
PZE     0
PZE     =5
MP8     INP
BRR     INP

  .

DATA    0773
DATA    0563
PZE     0
END
```

```
THIS PRØGRAM FEEDS TRANSFØRMS WITH A MAXIMUM LENGTH ØF 1024
PØINTS TØ THE CALLING PRØGRAM.  IT IS DESIGNED FØR ØN-LINE
DISPLAYS, THE TRANSFØRMS ARE NØT SAVED.




 SUBRØUTINE XFØRM

 INTEGER RECNTR
 INTEGER SVFILE,XFILE,DTFILE,PTR,CØSFILE,CSPI,KREC,LREC
 INTEGER XFCT,XCNT,SAMPTS
 REAL PI

 CØMMØN IP,LINE,NGRP,NPIG,NSL,ITIME,LFTIME,IRESØ,LG(3),
* IHARM1,IHARM2,IWIDE,NFRAM,NSHUT,INTL,INTS,INTSL,INTLØ,NPT,
* LAG,MDLAY,IEØF,LFT,N1,KILL,ITAPE,NBC,INITL,ICARD,
* MTAPE,ISWEEP,ISQRT,ISCL,IREP,CSPI,ISTUP(3),
* LP(3),LGRP,ISCP,LSPEC,NREC,NCTR,IPTR,LPTR,LSD,IDISPY,
* ISCAN,ISCAL,IFILE,IAB,JAB,IREWIND,STRT1,STRT2,STRT3,
* HARM1,WINT,SINT,SLINT,WØINT,HARM2,SWINC,SWL,SWU,SINC,IFLAG,
* PTR,ICTR,ISHT,NØREC,ISTAR,TF,ISWI,ISWU,ISWL,IØPTN,NP
* ,KNIFTY,NØNØISE,XFCT,XCNT,LG10,LGNAT,IDATE(3),ISITE,LGCNT,
* SAMPTS,ISFQ
 DIMENSIØN NBUF(1024)

 DIMENSIØN IBUF(2048), KBUF(1024),WTAB(1024), FBUF(2,1024)

 DATA SVFILE/20/,PI/3.1415926535/,CØSFILE/21/,XFILE/10/,KREC/2048/
* ,LREC/1024/,NØSFILE/11/



 SF = 2.0**23
 IF(IFLAG .EQ. 1) GØ TØ 15

TRANSFER PARAMETER INFØRMATIØN IN FILE 10 TØ XFØRM


NØREC IS THE NUMBER ØF 1024 RECØRDS ØF SEISMIC DATA
NFT IS THE LENGTH ØF THE TRANSFØRM, IN PØINTS
LAG IS THE SEPARATIØN, IN PØINTS, BETWEEN TRANSFØRMS
IPUT IS 1 FØR DRUM INPUT; 0 FØR TAPE INPUT
PTR INITIALLY 1, INDICATED WHICH HALF ØF DRUM RECØRD SHØULD BE
  PUT INTØ THE PRE-TRANSFØRM BUFFER
IFLAG INDICATES WHETHER THE INITIAL RECØRD HAS BEEN READ IN IF 1,
  IF 777 INDICATES END ØF FILE AND/ØR END ØF SEISMIC RECØRD
ISHT KEEPS TRACK ØF THE LEAD PØINT ØF THE TRANSFØRM WITHIN THE
CURRENT SEISMIC RECØRD
IFILE IS THE FILE ØF THE INPUT DATA IF THE DRUM IS BEING USED


CØMPUTE THE CØSINE TABLE

```

```
THETA = 0
DTHETA = 2*PI/LFT
DØ 20 I = 1,LFT
WTAB(I) = (1-CØS(THETA))/2.0
) THETA = THETA + DTHETA
CALL WRITE(CØSFILE,WTAB,LFT*2)
DØ 25 I = 1,1024
KBUF(I) = 0
CALL WRITE(NØSFILE,KBUF,LREC)


CALL READD(CØSFILE,WTAB,LFT*2)
LAST = 0
IREC = 0
NXSHT = LREC/LAG
NXREC = LFT/LREC
NTX = LREC/(LFT/2)
IF(NXREC .LT. 1) NXREC = 1


READ IN DATA

IF((IFLAG .EQ. 0) .AND. (NØNØISE .NE. 0))GØ TØ 180
IF(IFLAG .EQ. 1) GØ TØ 45
DØ 30 I = 1,NXREC + 1
L = (I-1)*LREC + 1
CALL BININ(1,IBUF(L),LREC,IND)
) CØNTINUE
CALL WRITE(SVFILE,IBUF,KREC)
5 CALL READD(SVFILE,IBUF,KREC)

PREPARE PRE-TRANSFØRM BUFFER, TØ TØ TRANSFØRM

DØ 48 I = 1,LREC
KBUF(I) = 0
DØ 150 N = 1,NTX
IRP = LAG*ISHT
DØ 60 I = 1,LFT
FBUF(1,I) = IBUF(IRP + I)*WTAB(I)/2.0**23
) FBUF(2,I) = 0.0
CALL FØUR2(FBUF,LFT,1,-1)
CALL READD(NØSFILE,NBUF,LREC)
LA = (N-1)*LFT/2
DØ 80 I = 1,LFT/2
KBUF(LA+I) = (SQRT(FBUF(1,I)**2 + FBUF(2,I)**2)*SF)- NBUF(I)
IF(KBUF(LA+I) .LT. 0) KBUF(LA+I) = 0
CØNTINUE

IF(LGCNT + N .GE. (SAMPTS-LFT)/LAG) GØ TØ 170
TAKE CARE ØF BØØKKEEPING

ISHT = MØD(ISHT+1,NXSHT)
IF(ISHT .NE. 0) GØ TØ 150

DØ NØT NEED MØRE DATA YET
```

```

DØ 90 I = 1,LREC
IBUF(I) = IBUF(I + LREC)
CALL BININ(1,IBUF(LREC+1),LREC,IND)

STØRE PRE-TRANSFØRM BUFFER

CALL WRITE(SVFILE,IBUF,KREC)
CØNTINUE
IFLAG = 1
GØ TØ 170

ALL INPUT DATA HAS BEEN EXHAUSTED

CALL WRITE(XFILE,KBUF,LREC)
RETURN




RECNTR = 2
LA = 0
IF NØNØISE IS SET EQUAL TØ 1000, THE PRØGRAM DEFAULTS TØ THE
CASE IN WHICH THE AVERAGE NØISE IS FØUND FRØM THE ENTIRE SET ØF
TRANSFØRMS
IF(NØNØISE .EQ. 1000) NØNØISE = (SAMPTS-LFT)/LAG
DØ 181 I = 1,NXREC + 1
L = (I-1)*LREC + 1
CALL BININ(1,IBUF(L),LREC,IND)
CALL WRITE(SVFILE,IBUF,KREC)
DØ 182 I = 1,LREC
KBUF(I) = 0
IRP = LAG*ISHT
DØ 184 I = 1,LFT
FBUF(1,I) = IBUF(IRP+I)*WTAB(I)/2.0**23
FBUF(2,I)=0.0
CALL FØUR2(FBUF,LFT,1,-1)
DØ 185 I = 1,LFT/2
KBUF(I) =(SQRT(FBUF(1,I)**2+FBUF(2,I)**2)*SF/NØNØISE)+ KBUF(I)
LA = LA + 1
IF(LA .EQ. NØNØISE) GØ TØ 187
ISHT = MØD(ISHT+1,NXSHT)
IF(ISHT .NE. 0) GØ TØ 183
IF(RECNTR .EQ. NØREC) GØ TØ 187
DØ 186 I = 1,LREC
IBUF(I) = IBUF(I+LREC)
CALL BININ(1,IBUF(LREC+1),LREC,IND)
RECNTR = RECNTR + 1
GØ TØ 183
CALL BAKREC(ITAPE,RECNTR)
CALL WRITE(NØSFILE,KBUF,LREC)
ISHT = 0
GØ TØ 28


END
```

```
  SUBROUTINE NIFTY

  NIFTY DRIVER

  DIMENSION IBUF(8192)
  INTEGER INUNIT,OTUNIT, EOF, INMODE, OUTMODE
  INTEGER WRTEOF,TAPRWD,FINISH, FILES, RECORDS, DUMP, NFILE, DIR,
 *       UNIT, MODE, NREC, RWOPTN, LREC
  NAMELIST WRTEOF,TAPRWD, FINISH,FILES,RECORDS,DUMP,NFILE,DIR,
 *         UNIT, MODE, NREC, RWOPTN, LREC
  NAMELIST KILL, COPY
  NAMELIST INUNIT, OTUNIT, EOF
  NAMELIST INMODE, OUTMODE

  DATA KILL/0/

0 WRTEOF = TAPRWD = FINISH = FILES = RECORDS = DUMP = 0
  COPY = 0
  OUTPUT(102) 'REQUEST'
   INPUT(101)
  IF(KILL .NE. 0) RETURN
  IF(FILES .NE. 0) CALL FILSKP
  IF(RECORDS .NE. 0) CALL RECSKP
  IF(DUMP .NE. 0) CALL SDUMP
  IF(COPY .NE. 0) CALL TCOPY
  IF(WRTEOF .NE. 0) GO TO 30
0 IF(TAPRWD .NE. 0) GO TO 40
  IF((FILES .EQ. 0) .AND. (RECORDS .EQ. 0) .AND. (DUMP .EQ. 0)
 * .AND. (WRTEOF .EQ. 0) .AND. (TAPRWD .EQ. 0) .AND. (COPY .EQ. 0))
 * OUTPUT(102) 'WAKE UP SLEEPY '
  GO TO 10

  OUTPUT(102) 'SPECIFY UNIT,RWOPTN'
  INPUT(101)
  CALL WEOF(UNIT,RWOPTN)
  GO TO 20
0 OUTPUT(102) 'SPECIFY UNIT'
  INPUT(101)
  CALL RWND(UNIT)
  GO TO 10

  SKIP A CERTAIN NUMBER OF FILES ON A TAPE
  CAUTION -  DO NOT TRY TO SKIP PAST THE BEGINNING OR END OF TAPE
  MARKS.  WHEN IN DOUBT REWIND

  SUBROUTINE FILSKP
  OUTPUT(102) 'SPECIFY NFILE, DIR, UNIT'
  INPUT(101)
  IF(DIR .NE. 0) CALL BAKSCN(UNIT,NFILE); GO TO 10
  CALL FORSCN(UNIT,NFILE)
  OUTPUT(102) 'DESIRED FILE'
  RETURN

  SKIP A CERTAIN NUMBER OF RECORDS ON A TAPE
```

```
 CAUTION  -  DO NOT TRY TO SKIP PAST THE BEGINNING OR END OF TAPE
 MARKS.   WHEN IN DOUBT, REWIND

 SUBROUTINE RECSKP
 OUTPUT(102) 'SPECIFY UNIT, NREC, DIR'
 INPUT(101)
 IF(DIR .NE. 0) CALL BAKREC(UNIT,NREC); GO TO 10
 CALL FORREC(UNIT,NREC)
 OUTPUT(102) 'DESIRED RECORD'
 RETURN

 READ IN A TAPE AND DUMP ON LINE PRINTER

 SUBROUTINE SDUMP
 OUTPUT(102) 'SPECIFY LREC, NREC, MODE, UNIT'
 OUTPUT(102) 'MODE=0-BCD; 1-BINARY'
 INPUT(101)
 NLINES = LREC/8
 IF(NLINES*8 .LT. LREC) NLINES = NLINES + 1
 DO 30 I = 1,NREC
 DO 5 ICLR = 1,LREC
5 IBUF(ICLR) = 0
 IF(MODE.EQ.0) CALL BCDIN(UNIT,IBUF,LREC,IND);GO TO 10
 CALL BININ(UNIT,IBUF,LREC,IND)
0 IF(IND .NE. 0) OUTPUT(102) 'YOU HIT AN EOF';GO TO 40
 DO 20 L = 1,NLINES
 K = (L-1)*8 + 1
 WRITE(6,200) IBUF(K),IBUF(K+1),IBUF(K+2),IBUF(K+3),IBUF(K+4),
* IBUF(K+5), IBUF(K+6), IBUF(K+7)
0 FORMAT (1X,8O12)
0 CONTINUE
0 CONTINUE
0 RETURN
 SUBROUTINE TCOPY

COPIES ONE TAPE ONTO ANOTHER TAPE IN BCD OR BINARY
 WITH THE OPTION OF PUTTING AN ENDFILE ON THE OUTPUT TAPE
 WHEN THE COPYING IS COMPLETED THE VALUE OF IRECNT, THE
 NUMBER OF RECORDS THAT HAVE BEEN TRANSCRIBED ONTO THE OUTPUT TAPE ,
 WILL BE OUTPUT

 OUTPUT(102) 'SPECIFY LREC,NREC,INMODE,OUTMODE,INUNIT,OTUNIT,EOF'
 OUTPUT(102) 'MODE=1-BINARY;0-BCD'
 INPUT(101)
 IRECNT = 0
 DO 30 I = 1,NREC
 DO 10 J = 1,LREC
0 IBUF(J) = 0
 IF(INMODE.EQ.0) CALL BCDIN(INUNIT,IBUF,LREC,IND);GO TO 20
 CALL BININ(INUNIT,IBUF,LREC,IND)
0 IF(IND .NE. 0) OUTPUT(102) 'YOU HIT AN EOF'; GO TO 40
 IF(OUTMODE.EQ.0) CALL BCDOUT(OTUNIT,IBUF,LREC,IND);GO TO 30
 CALL BINOUT(OTUNIT,IBUF,LREC,IND)
0 IRECNT = IRECNT + 1
0 IF(EOF .EQ. 1) CALL WEOF(OTUNIT,0)
```

```
ØUTPUT(102) IRECNT
RETURN
SUBRØUTINE ADUMMY
RETURN
END
```

```
       VERSIØN 11  REVISIØN B  CREATED 06 JUN 66     DATE                       F

PUNGE

TLE ESP93

XTENDED SIGNAL PRØCESSING PRØGRAM

ERSIØN 1175, REVISIØN A

1/6/75

CARRET
NTRY ESP93,INIT,A9300,INI2,
PAR,TSFLG,TDXDY,LDXDY,DTXY,WAIT1,NEWL,
I5,INI7,INI8,TLØØP,TL10,TL30,TL50,
DXDY,NEXT,MØVED,FREQD,FREQ2,FREQ3,FREQ4,
2,F3,TIMED,CØNVI,CØNVF,FSD,FSD1,SLIST,
PAR,GP10,GP40,GP60,ATØB,PNAME,BLANK,
EGIN,INTL,INTS,INTSL,INTLØ,
TBL,PIU,SDU,LDU,SCLN,
BU,SCLD,READ,SWITCH,REMØF,REMØV,REM4,REM8,
ØT,SLADJ,SCADJ,SPL,SPLP,
PL,LINE,GRP,NPTR,NSL,TIMEO,FTIME,RESØ,LP1,LP2,LP3,
NTX,XGAP,DELX,SXOYO,NFRAM,NSHUT,PICS,MØVIE,
CTR,ALINE,BLINE,GCTR,XSP,PCTR,SBA,LDXN,LDYN,VDXY,
EMP1,DBA,TIME,INTGT,FUNCT,SCTR,CS1,LIGHT,RBUF,
CL1,ØB,IB,CAPTR,WBUF,CBLK,
ERSAT,DBLK,DBLK1,VTSEND,GET93,ANGLE;
ARRET


BLK1=16000
ASEA=10000
ASEB=BASEA+1500.
N=0
REPEAT ZZ,(1,2,3,4,5,6,7,8,9,10)
BLK\ZZ=BASEA+NN
BLK\ZZ=BASEB+NN
N=NN+150.
NDI

005=25000√H
010=30000√H


PVT1=77750
PVT2=77751
VFPV=77771
TYØF=-3
INPV=77743
```

```
SP93:       JUMP         .                [AGT/9300 ENTRY
            JPSR         $AXINZ           [INITIALIZE 9300 COMMUNICATIONS
            JPSR         $AXINT
            MDAR         $FCLH            [SET FRAME CLOCK PIVOT
            ARMD         77755

            MDAR'F       $CHARS           [CLEAR CHAR BUFFER
            MDAS'F'N     1
            ARMD         TEMP
            ARXO'F
            ARMD'X'I     TEMP
            MDAR         TEMP
            MDXO'F       $ECHAR
            JPLS         .-4

            MDIC'A'L;    -10              [LCG OFF
            MD10         C0               [AVG, CLOCK AND SCOPE OFF
            JUMP         INI1

NIT:        0                             [REINITIALIZATION
            JPSR         $AXINT           [RESET COMMAND WORDS
            MDAR'N       NPAR             [WAIT FOR INPUT
            JPAN         .-1
            JPSR         GPAR             [PROCESS INPUT

NI1:        ARXO'F                        [RESET SWITCH OPTIONS
            ARMD         HSL
            ARMD         PICS
            ARMD         STARF
            ARMD         RELINE
            ARMD'O       LIGHT
            MDAR         C1
            ARMD         SCAD6

            MDAR'H       $SWO1            [LOOK FOR INITIAL 9300 COMMAND
            MDXO'F       3
            JPLS         .-2              [JUMP IF COMMAND NOT CODE 2
            MDAR         $SWO1            [READ INITIAL PARAMETERS
            ARMD'L
NADR:       0
            MDAR'H       $SWO2
            ARMD         NIP
            JPSR         $ROWFW
                         0
                         INADR
                         IPL
IP:                      0
            JPSR         $FINSH           [SEND COMPLETION CODE

SETUP INITIAL DISPLAY ORDINATES

ECON:
            MDAR'F       CAPTR            [SETUP INIT LINE POINTERS
            ARMD         CAPTR
```

```
VERSION 11  REVISION B  CREATED 06 JUN 66      DATE

   MDAR'F          CBPTR
   ARMD            CBPTR
```

```
         MDAR'N          LINE            [GET LINE COUNT
         MDAS'F          1
         ARMD            LCTR

NI2:     MDAR'I'X        CAPTR           [GET LINE BUFFER
         MDAS'F'N        1
         ARMD            ALINE
         MDAR'I'X        CBPTR
         MDAS'F'N        1
         ARMD            BLINE
         MDAR'H          X0              [GET INIT SPACING
         MDAE'H'N        INTX
         ARMD            XSP

         MDAR'N          GRP             [SET GROUP COUNT
         MDAS'F          1
         ARMD            GCTR

NI3:     MDAR'N          NPTR            [SET POINT COUNT
         MDAS'F          1
         ARMD            PCTR
         ARXO'F                          [GET MOVE BIT
         ARMD            TEMP

NI4:     MDAR            XSP             [BUMP SPACING
         MDAE'H          INTX
         MDAR'A          M1
         ARMD            XSP
         MDAR'O          TEMP            [SET DRAW/MOVE BIT
         ARMD'I'X        ALINE           [ENTER VALUE
         ARMD'I'X        BLINE
         MDAR            C1              [GET DRAW BIT
         ARMD            TEMP
         MDAR'X          PCTR            [BUMP POINT COUNT
         JPLS            INI4

         MDAR'X          GCTR            [BUMP GROUP COUNT
         JPLS            .+2
         JUMP            INI5
         MDAR            XSP             [ADD GAP
         MDAE'H          XGAP
         ARMD            XSP
         JUMP            INI3

NI5:     MDAR            XSP             [SET EOL BIT
         MDAR'O          C1M1
         ARMD'I          ALINE
         ARMD'I          BLINE
         MDAR'X          LCTR            [BUMP LINE COUNT
         JPLS            INI2

         MDAR            NPTR            [SETUP BREAK POINTS
         ARMD            L1
         MDAS            NPTR
```

```
   ARMD          L2
   MDAS          NPTR
   ARMD          L3
```

```
ET UP ALTERNATE LINE DISPLAY BUFFER

I7:         MDAR             GRP              [SET PØINT CØUNT
            MPYL             NPTR
            0
            ARRS             1
            ARMD             PCTR
            MDAR             -ABLK            [GET BUFFER ADDRESS
            ARMD             .+2
            JPSR             MØVED            [TRANSFER DATA
                             0
                             CBLK
                             PCTR
            MDAR'B           XGAP             [SETUP PØINTS IN GAP
            DIVL             INTX
            0
            ARMD             GAP

            MDAR             NPTR
            ARMD             R1
            MDAS             GAP
            MDAS'N           C1
            ARMD             R2
            MDAR             L2
            MDAS             GAP
            MDAS'N           C1
            ARMD             R3
            MDAR             GAP
            MDAS             GAP
            MDAS'N           C2
            ARMD             TEMP
            MDAR             L2
            MDAS             TEMP
            ARMD             R4
            MDAR             L3
            MDAS             TEMP
            ARMD             R5
            MDAR             RELINE           [SKIP IF REGRØUP
            JPAN             RECØN1

ETUP DXDY TABLE FØR LINE DISPLAY

            MDAR'L'N;        06000            [INIT. ANGLE  APPRØX 30 DEG
            JPSR             ANGLE
```

```
           MDAR'A         MADR
           ARMD'N         LDYN          [SAVE Y SPACING

           ARMD'Ø         CTØG
           JPSR           CDXDY         [CØMPUTE DXDY

ET UP DØUBLE BUFFER DISPLAY LIST

CØN1:
           JPSR           MØVED
                          ABLK
                          $GRP0
                          LINE
           JPSR           MØVED
                          BBLK
                          $GRP1
                          LINE
           ARXØ'F                       [RESET BUFFER SELECTØR
           ARMD           $LGRP
           ARMD           $NBUF         [RESET NEW BUFFER READY INDICATØR
           ARMD           STØG          [RESET SPØT TØGGLE
           MDAR'F         SPL-1         [RESET SPØT PTR
           ARMD           SPLP

ET UP SIDE LINE DISPLAY ØRDINATES

           MDAR'F         $NADAT        [SETUP SIDE LINE
           MDAS'F'N       1
           ARMD           SBA
           ARXØ'F                       [SET INITIAL SPACING
           ARMD           XSP
           MDAR'N         GRP           [SETUP GRØUP CØUNT
           MDAS'F         1
           ARMD           GCTR
I8:        MDAR'N         NPTR          [SETUP PØINT CØUNT
           MDAS'F         1
           ARMD           PCTR
           ARXØ'F                       [RESET MØVE BIT
           ARMD           TEMP
```

```
9:          MDAR               XSP                [PACK DATA
            MDAR'A             M1
            MDAR'O             TEMP
            ARMD'I'X           SBA                [ENTER DATA
            MDAR               C1                 [SET DRAW BIT
            ARMD               TEMP
            MDAR               XSP                [BUMP SPACING
            MDAE'H             DELX
            ARMD               XSP
            MDAR'X             PCTR               [BUMP POINT COUNT
            JPLS               INI9
            MDAR               XSP                [BUMP GAP
            MDAE'H             XGAP
            ARMD               XSP
            MDAR'X             GCTR               [BUMP GROUT
            JPLS               INI8

            MDAR'I             SBA
            MDAR'O'H           C1
            ARMD'I             SBA
            MDAR               SXOYO              [SET UP DXDY
            ARMD               $NDXDY
            MDAR'L                                [RESET WORDING BUFFER
            MDC5               CBLK
            ARMD               WBUF
            MDAR'F             $GRPO
            ARMD               DGRP
            MDAR'F             $GRP1
            ARMD               WGRP
            MDAR'L;            2525252525
            ARMD               ALTB
            MDAR               RELINE             [SKIP IF REGROUP
            JPAN               RECON2

            ARXO'F
            ARMD               $AUXD              [CLEAR SIDE LINE DISPLAY OPTION
            ARMD               CLPTR              [RESET CRNT LINE PTR
            MDAR'L;            4000               [SET UNITY SCALE FACTOR
            ARMD               SCL1               [GROUP SCALES
            ARMD               SCL2
            ARMD               SCL3

T UP DISPLAY PARAMETERS

            MDAR               LINE               [NUMBER OF DISPLAY LINES
            ARMD               $NLINE
            MDAR'H             M1629              [INITIAL PICTURE SCALE
            ARMD               $SCALE
            MDAR               LIGHT              [SPOT LIGHT OPTIO
            ARMD               $SFLG
```

```
CON2:          ARXO'F
               ARMD             LP1
               ARMD             LP2
               ARMD             LP3
               MDAR             NPTR
               MDAS'F'N         1
               ARMD             EP1
               ARMD             EP2
               ARMD             EP3
               MDAR             GRP              [MODIFY IT FOR GROUP
               MDXO             C1
               JPLS             .+2
               JUMP             INI10
               MDAR             LP1
               MDAS             NPTR
               ARMD             LP2
               MDAS             NPTR
               ARMD             LP3
               MDAR             EP1
               MDAS             NPTR
               ARMD             EP2
               MDAS             NPTR
               ARMD             EP3

I10:           MDAR'N           C2               [SET INIT. SPOTLIGHT POSITION
               ARMD             LCTR
               MDAR'F           LP1-1            [ADDR OF LEAD POINT
               ARMD             TEMP1
               MDAR'F           SPOT-1           [ADDR OF SPOT DISPLAY
               ARMD             TEMP2
               MDAR'F           CS1-1            [ADDR OF CENTER OF SPOT
               ARMD             SPTR
```

```
11:     MDAR            NPTR            [PØSITIØN SPØTS
        MDAS'N          IWIDE           [AT THE CENTER ØF LINE
        ARRS            1
        MDAS'I'X        TEMP1           [ADD LEAD PØINT
        ARMD            TEMP            [LEADING EDGE ØF SPØT
        ARMD'I'X        TEMP2           [SETUP S1,S2,S3
        MDAR            IWIDE           [GET CENTERS
        ARRS            1
        MDAS            TEMP
        ARMD'I'X        SPTR

        MDAR'X          LCTR
        JPLS            INI11

        MDAR            GRP
        ARMD            NSPØT
        MDXØ'F          1
        JPLS            .+3
        MDAR            NSL
        ARMD            NSPØT
        JPSR            GSPØT
        JPSR            FREQD           [CØMPUTE CENTER FREQUENCY
        MDAR            RELINE
        JPAN            .+2
        JUMP            INI12
        MD10            $AVGØN          [TAKE RELINE PATH
        JPSR            $DISPL
        JUMP            REDØNE

12:     MDAR            TIME0           [STARTING TIME
        JPSR            TIMED
        ARXØ'F
        ARMD            FUNCT           [CLEAR FS LATCH
        JPSR            FSD             [CLEAR FS ØN CØUNT
        MD10            $AVGØN          [AVG, SCØPE, CLØCK ØN
        JPSR            $DISPL          [START DISPLAY


        MDAR'F          $CHARS
        MDAS'F'N        1
        ARMD            CP1             [RESET PTR TØ CHAR BUFFER

        MDAR'L                          [SET UP FØREGRØUND/BACKGRØUND
        JUMP            BEGIN
        ARMD            WT1

ØP:     JPSR            ICHTY           [INPUT CHAR FRØM TTY
                        2
        ARMD'L                          [SAVE AR
:       0
        MDAR'N          NPAR
        JPAN            TL10            [GØ ØN, READY FØR NEW INPUT

:       MDAR            TL5             [RESTØRE AR
```

```
   JUMP            TLØØP           [RESTART TTY INPUT

:  MDAR            TTYC            [GET THE ASCII CHAR
   MDAR'A'F        177             [MASK ØUT PARITY
   MDXØ'F          15              [IS IT CARRIAGE RETURN>Q
   JPLS            TL30            [NØ
```

```
        ARMD'Ø          NPAR            [SET PARAM. VALUE READY FLAG
        JUMP            TL7             [AND RESTART TTY INPUT

:       MDXØ'F          15'177          [RUBØUT
        JPLS            TL5C            [NØ

:       MDAR'F          $CHARS
        MDAS'F'N        1
        MDXØ            CP1
        JPLS            .+2             [THIS JUMP IF CHAR TØ RUB ØUT
        JUMP            TL7             [ELSE NØ CHAR YET, IGNØRE RUBØUT

        ARXØ'F
        ARMD'I          CP1             [REMØVE LAST CHAR FRØM BUFFER
        MDAR            CP1             [AND DECREMENT PTR
        MDAS'F'N        1
        ARMD            CP1
        JUMP            TL7             [START TTY AGAIN

:       MDAR'F          $ECHAR
        MDAS'F'N        1
        MDXØ            CP1
        JPLS            .+2             [JUMP IF RØØM FØR A CHAR
        JUMP            TL7             [ELSE IGNØRE THE CHAR, WAIT FØR C/R

        MDAR            TTYC            [IS CHAR. A ''*''
        MDAR'A'F        177
        MDXØ'F          52
        JPLS            .+2             [NØ, SKIP IT
        ARMD'Ø          STARF           [SET *FLAG

        MDAR'B          TTYC            [GET THE CHAR, PØSITIØNED
        MDAR'A'F        376             [MASK ØUT PARITY
        ARMD'I'X        CP1             [AND PUT IT IN BUFFER
        ARMD'Ø          TSFLG           [SET DISPLAY FLAG
        JUMP            TL7             [GØ RESTART TTY

RØUTINE TØ CØMPUTE DXDY TABLE

Y:      JUMP            .
        MDAR'N          CTØG            [GET ALTERNATE BUFFER
        ARMD            CTØG
        JPAN            .+3
        MDAR'F          LDXDY
        JUMP            .+2
        MDAR'F          TDXDY
        ARMD            WDXY
        MDAS            LINE            [START WITH BØTTØM ØF STACK

        MDAS'F'N        1
        ARMD            SBA
        MDAR'N          LINE            [RESET LINE CØUNT
        MDAS'F          2
```

```
VERSION 11  REVISION B  CREATED 06 JUN 66     DATE                    P.
   ARMD             LCTR
```

```
             ARXO'F                         [SET JP INITIAL VALUE
             ARMD          VDXY
             ARMD'I        SBA              [ENTER VALUE
T:           MDAR          SBA              [BUMP STACK POINTER
             MDAS'F'N      1
             ARMD          SBA
             MDAR          VDXY             [BUMP DXDY VALUE
             MDAE'H        LDXN
             MDAS          LDYN
             ARMD          VDXY
             ARMD'I        SBA
             MDAR'X        LCTR             [BUMP LINE COUNT
             JPLS          NEXT

             MDAR          WDXY             [UPDATE DISPLAY                POINT
             ARMD          DTXY
             MDIR          CDXDY

BROUTINE TO DO SOME OF THE COMPUTATION FOR THE DXDY TABLE
LLED BY INI7 AND ROTO

LE:          JUMP          .
             JPSR          $SNCOS
             MDAR          INTX             [GET SPACING
             MPYL          LINE
             0
             ARRS          1
             ARMD          TEMP
             ARXO'F
             MDAS          $SINE            [EXTEND SIGN
             DIVL          TEMP
             0
             ARMD          TEMP
             ARXO'F
             MDAS          TEMP
             ARMD          XINC             [SAVE POINT COUNT IN X
             MPYL          INTX             [QUANTIZE X
             0
             ARRS          1
             MDAR'A        MADR
             ARMD          LDXN             [SAVE X-SPACING
             ARXO'F
             MDAS          $COSN            [EXTEND SING
             DIVL          LINE
             0
             MDIR          ANGLE            [RETURN
```

```
JBRØUTINE TØ TRANSFER DATA

VED:        JUMP               .
            MDAR'I             MØVED           [GET SØURCE ADDRESS
            MDAS'F'N           1
            ARMD               SBA

            MDAR'I'X           MØVED           [GET DESTINATIØN ADDRESS
            MDAS'F'N           1
            ARMD               DBA
            MDAR'I'X           MØVED           [GET WØRD CØUNT
            ARMD               TEMP
            MDAR'I'N           TEMP
            MDAS'F             1
            ARMD               WCTR
RE:         MDAR'I'X           SBA             [TRANSFER DATA
            ARMD'I'X           DBA
            MDAR'X             WCTR
            JPLS               MØRE
            MDIR'X             MØVED


JBRØUTINE TØ CALCULATE SPØTLIGHT FREQUENCIES

EQD:        JUMP               .

            MDAR'N             LIGHT
            ANIR               FREQD           [RETURN IF NØT REQD
            MDAR               GRP             [RESET SPØT CØUNT
            MDXØ'F             1
            JPLS               FREQ1
            MDAR'N             NSL
            JUMP               FREQ2
```

```
EQ1:    MDAR'N          GRP
EQ2:    MDAS'F          1
        ARMD            LCTR

        MDAR            CS1             [GET CENTER SPØT
        MDAS            ST1             [ADD STARTING PØINT
        ARAR'F'B
        DIVL            RESØ            [CØNVERT TØ FREQUENCY
        0
        ARMD            CF1             [SAVE INTEGER
        MDAR'A'H        MADR            [GET REMAINDER
        ARRS            1
        DIVL            RESØ            [DIVID ØUT REMAINDER
        0
        MDAR'A          MADR
        JPSR            CØNVF           [CØNVERT FRACTIØN
                        4
                        $F1R1
        MDAR            CF1             [GET INTEGER PART
        MDAR'A          MADR            [CØNVERT INTEGER
        JPSR            CØNVI
                        3
                        $F1L3
                        $F1L2
                        $F1L1
        MDAR'X          LCTR            [BUMP SPØT CØUNT
        JPLS            FREQ3           [MØRE
        MDAR'N          C13             [CLEAR REMAINDING DISPLAY
        ARMD            LCTR
        MDAR'F          F2-1
        MDAR'Ø'H        C1
        ARMD            SBA
        MDAR            C40
        ARMD'I'X'B      SBA
        MDAR'X          LCTR
        JPLS            *-3
        MDAR            C1              [SET NSPØT TO 1
        ARMD            $NSPØT
        ARMD            NSPØT
        MDIR            FREQD

EQ3:    MDAR            CS2             [DØ NEXT SPØT
        MDAS            ST2
        ARAR'F'B
        DIVL            RESØ
        0
        ARMD            CF2
        MDAR'A'H        MADR
        ARRS            1
        DIVL            RESØ
        0
        MDAR'A          MADR
        JPSR            CØNVF
                        4
```

```
                  $F2R1
   MDAR           CF2
   MDAR'A         MADR
```

```
         JPSR            CØNVI
                         3
                         $F2L3
                         $F2L2
                         $F2L1

         MDAR'X          LCTR
         JPLS            FREQ4
         MDAR'N          C6              [CLEAR REMAINING DISPLAY
         ARMD            LCTR
         MDAR'F          F3-1
         MDAR'Ø'H        C1
         ARMD            SBA
         MDAR            C40
         ARMD'I'X'B      SBA
         MDAR'X          LCTR
         JPLS            .-3
         MDAR            C2              [SET NSPØT TO 2
         ARMD            $NSPØT
         ARMD            NSPØT
         MDIR            FREQD

EQ4:     MDAR            CS3
         MDAS            ST3
         ARAR'F'B
         DIVL            RESØ
         0
         ARMD            CF3
         MDAR'A'H        MADR
         ARRS            1
         DIVL            RESØ
         0
         MDAR'A          MADR
         JPSR            CØNVF
                         4
                         $F3R1
         MDAR            CF3
         MDAR'A          MADR
         JPSR            CØNVI
                         3
                         $F3L3
                         $F3L2
                         $F3L1
         MDAR            C3              [SET NSPØT TØ 3
         ARMD            $NSPØT
         ARMD            NSPØT
         MDIR            FREQD

:        $F2L1;$F2L2;$F2L3
         $F2R1;$F2R2;$F2R3;$F2R4
:        $F3L1;$F3L2;$F3L3
         $F3R1;$F3R2;$F3R3;$F3R4
```

```
UBROUTINE TO UPDATE TIME

MED:         JUMP             .
             ARMD             TIME            [UPDATE TIME
             ARAR'B'F
             DIVI             60.             [GET NUMBER OF SECONDS
             0
             ARMD             TEMP1
             ARRS             16.
             0
             JPSR             CONVI           [CONVERT SECONDS
                              2
                              $SEC2
                              $SEC1
             MDAR'B           TEMP1           [GET NUMBER OF MINUTES
             MDAR'A           MADR
             DIVI             60.
             0
             ARMD             TEMP1
             ARRS             16.
             0
             JPSR             CONVI           [CONVERT MINUTES
                              2
                              $MIN2
                              $MIN1
             MDAR             TEMP1           [GET NUMBER OF HOURS
             MDAR'A           MADR
             JPSR             CONVI           [CONVERT HOURS
                              2
                              $HOUR2
                              $HOUR1
             MDIR             TIMED

UBROUTINE TO CONVERT INTEGERS TO ASCII

NVI:         JUMP             .

             ARMD             INTG            [SAVE INTEGER VALUE
             MDAR'I'N         CONVI           [GET CHAR COUNT
             MDAS'F           1
             ARMD             LCTR1
V1:          MDAR'X           LCTR1
             JPLS             .+2
             JUMP             CNV2            [CONVERT INTEGER TO DECIMA;
             MDAR'X'I         CONVI
             ARMD             TEMP
             MDAR'B           INTG
             DIVI             12
             0
             ARMD             INTG
             ARRS             16.             [CONVERT DECIMAL TO ASCII
             0
```

```
          MDAS'F          60
          ARMD'I'B        TEMP             [ENTRY ASCII CHAR
          MDAR            INTG             [DØ NEXT CHARACTER
          MDAR'A          MADR
          ARMD            INTG
          JUMP            CNV1
V2:       MDAR'X'I        CØNVI
          ARMD            TEMP
          MDAR            INTG
          MDAS'F          60
          ARMD'I'B        TEMP             [ENTER LAST ASCII CHAR
          MDIR'X          CØNVI

SUBRØUTINE TØ CØNVERT FRACTIØN

NVF:      JUMP            .
          ARMD            TEMP             [SAVE VALUE
          MDAR'I'N        CØNVF            [GET DIGIT CØUNT
          MDAS'F          1
          ARMD            LCTR1
          MDAR'I'X        CØNVF            [GET ADDRESS
          MDAS'F'N        1
          ARMD            SPTR
VF1:      MDAR            TEMP             [CØNVERT VALUE
          MPYI            12
          0
          ARMD            TEMP             [SAVE REMAINDING VALUE
          ARRS            15.
          0
          MDAS'F          60
          ARMD'I'X'B      SPTR             [UPDATE DIGITS
          MDAR            TEMP
          MDAR'A          MADR
          ARRS            1
          ARMD            TEMP
          MDAR'X          LCTR1            [BUMP DIGIT CØUNT
          JPLS            CNVF1
          MDIR'X          CØNVF            [RETURN


SUBRØUTINE TØ TURN ØN FUNCTIØN SWITCH INDICATØRS

D:        JUMP            .
          ARRS            1                [SAVE SWITCH STATUS
          ARMD            FCT
          MDAR            M35              [BLANK ØUT SWITCH BUFFER
          ARMD            LCTR
          MDAR'F          SBUF-1
          ARMD            SPTR
          MDAR            C40
          ARMD'I'X'B      SPTR
          MDAR'X          LCTR
          JPLS            .-3
```

```
        MDAR'F          SBUF-1          [RESET BUFFER PØINTER
        ARMD            SPTR
        MDAR'N          C17             [RESET SWITCH CØUNTER
        ARMD            LCTR
SD0:    MDAR'B          FCT             [CHECK SWITCH STATUS
        ARMD            FCT
        JPAN            FSD3            [ØN - DISPLAY NUMBER
SD1:    MDAR'X          LCTR
        JPLS            FSD0

        MDAR            $END2           [SET TEXT END ØF LIST
        ARMD'I'X        SPTR
        MDAR            M35             [TRANSFER DISPLAY BUFFER
        ARMD            LCTR
        MDAR'F          SBUF-1
        ARMD            IB
        MDAR'F          SLIST-1
        MDAR'Ø'H        C1
        ARMD            ØB
SD2:    MDAR'I'X        IB
        ARMD'I'X        ØB
        MDAR'X          LCTR
        JPLS            FSD2
        MDIR            FSD             [RETURN

SD3:    MDAR'X          SPTR
        ARMD            FSD5
        MDAR'X          SPTR
        ARMD            FSD4
        MDAR            LCTR
        MDAS'F          18.
        JPSR            CØNVI
                        2
SD4:                    0
SD5:                    0
        JUMP            FSD1

LIST:   $S1A; $S1B                      [SWITCH DISPLAY LIST
        $S2A; $S2B; $S3A; $S3B
        $S4A; $S4B; $S5A; $S5B
        $S6A; $S6B; $S7A; $S7B
        $S8A; $S8B; $S9A; $S9B
        $S10A; $S10B; $S11A; $S11B
        $S12A; $S12B; $S13A; $S13B
        $S14A; $S14B; $S15A; $S15B
        $S16A; $S16B; $F1A; $F1B
        $F2A; $F2B
```

```
OUTINE TO GET NEW PARAMETER VALUE TYPED IN

AR:       JUMP            .

          MDAR            FUNCT
          MDAR'A          MSKSW
          ARMD            FUNCT
          MDAR            $SWO1           [SAVE NAMELIST BUFFER ADDR.
          ARMD            A9300

1:      ARMD              TSFLG           [RESET INPUT TEXT DISPLAY FLAG

5:        MDAR'F'N        4               [CLEAR AND PACK PNAME BUFFER
          ARMD            T2
          MDAR'F          PNAME-1
          ARMD            T3
          MDBR            BLANK
          BRMD'I'X        T3
          MDAR'X          T2
          JPLS            .-2

          MDAR'F          $CHARS
          MDAS'F'N        1
          ARMD            T1              [RESET PTR TO CHARS TABLE
          MDAR'F          PNAME
          ARMD            T2              [RESET PTR TO PACK BUFFER
          ARXO'F
          ARMD            T3              [RESET CNT OF CHARS PACKED INTO CRNT
          ARMD            T4              [RESET TOTAL CHAR PACKED COUNT
10:       MDAR'I'X        T1              [GET NEXT CHAR
          JPLS            GP30            [JUMP IF NON-ZERO

20:       JPSR            $ROWFW
                          -0
                          A9300
                          PNAME
                          5

          JPSR            $FINSH
          MDAR'F          $CHARS          [CLEAR CHARS DISPLAY BUFFER
          MDAS'F'N        1
          ARMD            T1
          MDBR            CO
          BRMD'I'X        T1
          MDAR            T1
          MDXO'F          $ECHAR
          JPLS            .-3
          ARXO'F
          ARMD            NPAR            [RESET NEW PARAM. READY FLAG
```

```
         MDAR'F         $CHARS         [RESET PTR TO CHARS BUFFER
         MDAS'F'N       1
         ARMD           CP1

         MDAR           STARF          [LAST RECORD
         JPAN           GP25
         MDAR'N         NPAR           [WAIT FOR NEXT BLOCK
         JPAN           •-1
         JUMP           GP1            [GO DI IT

25:
         ARXO'F
         ARMD           STARF          [RESET EOR INDICATOR
         MDIR'X         GPAR


30:      ARRS           1
         MDAS'F'N       37
         ARMD           T5             [SAVE FOR ASCII TO BCD TABLE LOOKUP
         JPAN           GP40           [JUMP IF ASCII 0-37 (USE CHECK)

         MDAS'F'N       100
         JPAN           GP50           [JUMP IF TO DO TABLE LOOKUP

40:      MDAR           C2             [ELSE ASCII 140-177 (USE CHECK)
         ARMD           T5

50:      MDAR'F         ATOB-1
         MDAS           T5
         ARMD           T5             [SAVE PTR TO TABLE ENTRY

         MDAR'X         T3             [BUMP CHAR COUNT
         MDXO'F         5
         JPLS           GP60           [JUMP IF ROOM IN CRNT WORD

         MDAR           C1             [ELSE SET CNT TO 1
         ARMD           T3
         MDAR'X         T2             [BUMP PTR TO PACK WORD

60:      MDAR'F         BTAB-1
         MDAS           T3
         ARMD           T6             [SAVE PTR TO MASK TABLE

         MDAR'F         LSFT-1
         MDAS           T3
         ARMD           T7             [SAVE PTR TO SHIFT TABLE

         MDAR'I         T2             [GET CRNT WORD
         MDIR'I         T6             [MASK OUT CRNT POSITION
         ARBR'F                        [SAVE IN BR
```

```
           MDAR'I          T5             [GET THE BCD CHAR
           MDIR'I          T7             [SHIFT IT
           0

           BRAR'Ø'F                       [MERGE INTØ CRNT WØRD
           ARMD'I          T2             [AND SAVE NEW CRNT WØRD
           MDAR'X          T4             [BUMP TØTAL CHAR CNT
           MDXØ'F          20.
           JPLS            GP10           [GET NEXT CHAR IF NØT 20 YET
           JUMP      -     GP20           [ELSE ALL DØNE

AB:        MDAR'A          M0611          [MASK TABLE
           MDAR'A          M1217
           MDAR'A          M1823
           MDAR'A          M2429

FT:        ARLS            18.            [SHIFT TABLE
           ARLS            12.
           ARLS            6
           0

SCII TØ BCD CØNVERSIØN TABLE --

ØB:        60                             [SPACE
           17;17;17;17;17;17              [ASSØRTED INVALIDS
           14                             ['
           74                             [(
           34                             [)
           54                             [*
           20                             [+
           73                             [,
           40                             [-
           33                             [.
           61                             [/
           0                              [0
           1;2;3;4;5;6;7;10;11            [1 TØ 9
           15                             [:
           17                             [;
           36                             [LT
           13                             [=
           16                             [GT
           17;17                          [2 INVALIDS
           21;22;23;24;25;26;27;30;31     [A TØ I
           41;42;43;44;45;46;47;50;51     [J TØ R
           62;63;64;65;66;67;70;71        [S TØ Z
           17;17;17;17;17 [5 INVALIDS

AME:       0;0;0;0;0

ANK:       60606060
```

```
N LOOP CALCULATIONS

N:        MDAR'N         NPAR        [TTY INPUT REQUEST
          JPAN           SCAN        [NO
          MDAR           C40         [YES, SET NAMELIST REQ BIT
          MDAR'O         FUNCT       [PUT IN AS IF FUNCTION SWITCH
          ARMD           FUNCT

N:        MDAR'K         FUNCT       [DISPLAY SWITCH STATUS
          JPSR           FSD

          MDAR'K         $SWO1       [LOOK FOR 9300 COMMAND
          JPAN           BEGIN
          MDAR'H         $SWO1       [GET COMMAND  CODE
          MDAR'A         MADR
          MDAS'F'N       21          [CHECK FOR LEGALITY
          JPAN           .+2         [OK
          JUMP           SC5         [IGNORE ILLEGAL CODE

          MDAS'F         22
          MDAS'F         CTBL        [BUILD JUMP ADDR
          MDAR'H'O       C1          [SET INDIRECT BIT
          ARMD           CTBL
          JPSR'I         CTBL        [PROCESS COMMAND
5:
          JPSR           $FINSH      [CLEAR ACCESS FOR NEXT COMMAND
          JUMP           BEGIN



9300 COMMAND TABLE

TBL:      0              [CURRENT COMMAND LINK
          INIT           [CODE 00 - INITIALIZATION
          FSR            [     01 - FUNCTION SWITCH REQUEST
          GPAR           [     02 - NAMELIST INPUT REQUEST
          PIU            [     03 - PARAMETER UPDATE
          SLO            [     04 - SIDE LINE DISPLAY OPTION
          SDU            [     05 - SIDE LINE DATA UPDATE
          LDU            [     06 - LINE DATA UPDATE
          ROT            [     07 - ROTATION
          SCADJ          [     10 - AMPLITUDE SCALING
          MOVIE          [     11 - MOVIE OPTION
          FBU            [     12 - FREQUENCY SWEEP OPTION
          FSDIR          [     13 - FREQUENCY SWEEP DIRECTION
          SPO            [     14 - SPOTLITE DISPLAY OPTION
          HSO            [     15 - HARMONIC RELATED SPOTS
          SLADJ          [     16 - SPOT LITE ADJUST
          REGRP          [     17 - RE-GROUP OPTION
          VERSAT         [     20 - HARD-COPY OPTION
```

```
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UNCTION SWITCH ASSIGNMENTS:

           1                RE-INITIALIZATION
           2                SIDE LINE DISPLAY OPTION
           3                ROTATION
           4                DISPLAY LOOP
           5                SPOTLITE ADJUST
           6                HARMONIC RELATED SPOTLITE
           7                SPOTLITE DISPLAY OPTION
           8                AMPLITUDE SCALING
           9                FREQUENCY SWEEP OPTION
           10               FREQUENCY SWEEP DIRECTION
           11               SINGLE SWEEP
           12
           13               HARD-COPY OPTION
           14
           15
           16               MOVIE OPTION

CONTROL DIALS ASSIGNMENTS:

           A                SPOTLITE ADJUST
           B                SPOTLITE ADJUST
           C                SPOTLITE ADJUST/ROTATION
           D                AMPLITUDE SCALING
           E                AMPLITUDE SCALING
           F                AMPLITUDE SCALING


SUBROUTINE TO OBTAIN HARD-COPY OUTPUT

ERSAT:     JUMP             .
           MDAR'N           LINE           [GET NUMBER OF LINES
           MDAS'F           1
           ARMD             LCTR           [SET UP LINE COUNTER

ERSC:      MDAR             DBLK           [DESTINATION BLOCK
           MDAS'F'N         1
           ARMD             DBA            [DESTINATION ADDRESS
           MDAR             NPTR           [GET NUMBER OF POINTS
           ARMD'I'X         DBA
           MDAR             LINE           [GET NUMBER OF LINES
           ARMD'I'X         DBA
           ARXO'F
           MDAS             LDXN           [GET X-INCREMENT
           ARMD'I'X         DBA
           ARXO'F
           MDAS             LDYN           [GET Y-INCREMENT
           ARMD'I'X         DBA
           MDAR             CLPTR          [GET CURRENT LINE POINTER
           ARMD'I'X         DBA
           JPSR             VTSEND
```

```
RS1:    MDAR            DGRP            [GET SØURCE BLØCK ADDRESS
        MDAS'F'N        1
        ARMD            ISBA            [SØURCE BLØCK ADDRESS
```

```
ERS2:     MDAR           DBLK          [DESTINATION BLOCK
          MDAS'F'N       1
          ARMD           DBA           [DESTINATION OF ADDRESS
          MDAR'I'X       ISBA
          MDAS'F'N       1
          ARMD           SBA           [SOURCE ADDRESS
          MDAR'N         NPTR          [GET NUMBER OF POINTS PER LINE
          MDAS'F         1
          ARMD           PCTR          [SET UP POINT COUNTER
ERS3:     MDAR'I'X       SBA           [GET X VALUE
          ARRS           15.
          ARMD'I'X       DBA           [STUFF IN DUMP BLOCK
          ARXO'F                       [PUT ZERO IN A REGIS.
          MDAS'I         SBA           [GET Y VALUE
          ARMD'I'X       DBA           [STUFF IN DUMP BLOCK
          MDAR'X         PCTR          [CHECK POINT COUNTER
          JPLS           VERS3         [NOT DONE WITH LINE
          JPSR           VTSEND        [SEND OUT THE LINE
          MDAR'X         LCTR          [CHECK LINE COUNTER
          JPLS           VERS2         [ALL LINES NOT DONE
          MDAR'L
ERS4:     0077773740                   [TURN OFF SWITCH 13
          MDAR'A         $LFNS
          ARMD           $LFNS
          MDAR           VERS4
          MDAR'A         FUNCT
          ARMD           FUNCT
          MDIR           VERSAT

TSEND:    JUMP           .
          MDAR'K         $SWO1         [WAIT FOR GO AHEAD
          JPAN           .-1
          MDAR           $SWO1         [GET 9300 DESTINATION ADDRESS
          ARMD           A9300
          MDAR'H         $SWO2         [GET WORD COUNT
          ARMD           OUTCTR
          JPSR           $ROWFW        [WRITE TO 9300
                         -0
                         A9300
                         DBLK1
JTCTR:                   0
          JPSR           $FINSH
          MDIR           VTSEND
SBA:                     0

SUBROUTINE TO RE-GROUP

EGRP:     JUMP           .
          ARMD'O         RELINE        [SET RELINE INDICATOR
          JUMP           RECON         [TO RE CON LINE BUFFER
EDONE:    JPSR           $FINSH
          JPSR           FBJ           [REGROUP DATA
                         0
```

```
        ARXØ'F                          [RESET RELINE
        ARMD            RELINE
        MDIR'X          REGRP
LINE:   0
```

```
SR:         JUMP            .
            MDAR            $SW01
            ARMD            A9300
            MDAR'H          $SW02
            ARMD            FSR1
            JPSR            $ROWFW
                            -0
                            A9300
                            FUNCT
SR1:                        0
            MDIR            FSR

SDIR:       JUMP            .
            MDAR'F          ST1
            JPSR            GET93
            JPSR            FREQD
            MDAR'L
IR2:        0077757740
            MDAR'A          $LFNS
            ARMD            $LFNS
            MDAR            DIR2
            MDAR'A          FUNCT
            ARMD            FUNCT
            MDIR            FSDIR

LO:         JUMP            .
            MDAR'N          $AUXD
            ARMD            $AUXD
            MDIR            SLO

S9:         JUMP            .
            MDAR'N          HSL
            ARMD            HSL
            MDIR            HS9

PO:         JUMP            .
            MDAR'N          LIGHT
            ARMD            LIGHT
            ARMD            $SFLG
            MDIR            SP9

[SUBROUTINE FOR MOVIES

OVIE:       JUMP            .
            ARMD'O          PICS            [SET MOVIE REQD FLAG
            MDAR            PICS            [WAIT FOR IT TO BE RESET
            JPAN            .-1
            MDIR            MOVIE           [RETURN

[SUBROUTINE FOR PARAMETER UPDATE

IU:         JUMP            .
            MDAR'F          IPL
            JPSR            GET93
```

```
        MDIR            PIU

[SUBRØUTINE FØR SIDE LINE DATA UPDATE

SDU:    JUMP            .
        JPSR            READ            [READ SIDE LINE DATA

        MDAR'N          GRP             [SET GRØUP CØUNT
        MDAS'F          1
        ARMD            GCTR
        MDAR'F          SCL1            [GRØUP SCALES
        ARMD            SD10
        MDAR'F          RBUF            [INPUT BUFFER
        ARMD            SD20
        MDAR'F          $NADAT          [SIDE LINE BUFFER
        ARMD            SD30

SD05:   JPSR            SCLD            [SCALE DATA
SD10:                   0
SD20:                   0
SD30:                   0
                        NPTR

        MDAR'X          GCTR            [BUMP CØUNT
        JPLS            .+2
        JUMP            SD40
        MDAR'X          SD10
        MDAR            NPTR
        MDAS            SD20
        ARMD            SD20
        MDAR            NPTR
        MDAS            SD30
        ARMD            SD30
        JUMP            SD05

SD40:   JPSR            SPU
        MDIR            SDU             [RETURN


[SUBRØUTINE TØ GET DATA FRØM THE 9300

GET93:  JUMP            .
        MDAR'A          MADR            [MASK ØUT UPPER BITS
        ARMD            GET1            [A REGISTER - BUFFER LØC TØ GET1
        MDAR            $SWØ1
        ARMD            A9300
        MDAR'H          $SWØ2
        ARMD            GET2
        JPSR            $RØWFW
                        0
                        A9300
GET1:                   0
GET2:                   0
```

```
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   MDIR            GET93
```

```
SUBRØUTINE TØ UPDATE SIDELINE SPØT

PU:          JUMP            *
             MDAR            GRP              [GET ADDRESS ØF SPØTS
             MPYL            NPTR
             0
             ARRS            1
             MDAS'F          $NADAT
             ARMD            SDU3
             MDAS'F'N        1                [RESTØRE EØL
             ARMD            SDU4
             MDAR'I          SDU4
             MDAR'Ø'H        C1
             ARMD'I          SDU4

             MDAR'N          LIGHT            [SPØTLITE ØPTIØN
             ANIR            SPU              [NØ, RETURN

             MDAR            GRP              [GET SPØT CØUNT
             MDXØ'F          1
             JPLS            *+3
             MDAR'N          NSL
             JUMP            *+2
             MDAR'N          GRP
             MDAS'F          1
             ARMD            GCTR
             MDAR'F          SPØT-1           [GET ADDR ØF SPØTS
             ARMD            SPTR
DU1:         MDAR'F          $NADAT           [GET SØURCE ADDR
             MDAS'I'X        SPTR
             ARMD            SDU2

             JPSR            MØVED            [TRANSFER SPØT DATA
DU2:                         0
DU3:                         0
                             IWIDE
```

```
         MDAR'I        SDU3          [MAKE FIRST PØINT A MØVE
         MDAR'A        M1
         ARMD'I        SDU3
         MDAR          SDU3          [BUMP TRANSFER ADDR
         MDAS          IWIDE
         ARMD          SDU3
         MDAR'X        GCTR          [BUMP CØUNT
         JPLS          SDU1          [GET NEXT SPØT

         MDAR'H        C1            [TURN ØN EØL BIT
         ARMD'I        SDU3
         MDAR'I        SDU4          [LINK SPØTS TØ LINE
         MDAR'A'H      M1            [REMØVE PREVIØUS EØL
         ARMD'I        SDU4
         MDIR          SPJ

DU4:                   0


SUBRØUTINE FØR LINE DATA UPDATE

DU:      JUMP          .
         JPSR          READ          [READ NEW DATA
         MDAR'N        GRP           [RESET GRØUP CØUNT
         MDAS'F        1
         ARMD          GCTR
         MDAR'F        SCL1          [SET UP GRØUP SCALE
         ARMD          SCLN
         MDAR'F        RBUF          [SETUP CURRENT INPUT GRØUP
         ARMD          CRBUF
         MDAR          WBUF          [SET UP WØRKING GRØUP BUFFER
         ARMD          CDBUF

DU1:     JPSR          SCLD          [SCALE AND UPDATE GRØUP DATA
CLN:                   0
RBUF:                  0
DBUF:                  0
                       NPTR

         MDAR'X        GCTR          [BUMP GRØUP CØUNT
         JPLS          .+2
         JUMP          LDU2          [END ØF GRØUPS
         MDAR'X        SCLN          [GET NEXT GRØUP SCALE
         MDAR          NPTR
         MDAS          CRBUF         [GET NEXT GRØUP INPUT
         ARMD          CRBUF
         MDAR          NPTR
         MDAS          CDBUF         [GET NEXT LINE GRØUP
         ARMD          CDBUF
         JUMP          LDU1          [SCALE NEXT GRØUP
```

```
U2:      MDAR          CLPTR          [BUMP LINE PØINTER
         MDAS'F'N      1
         ARMD          CLPTR
         JPAN          •+2            [CHECK LINE BØUND
         JUMP          LDU3           [ØK
         ARXØ'F'H
         JPLS          •+3            [NØT ZERØ
         ARMD          CLPTR          [RESET PØINTER TØ ZERØ
         JUMP          LDU3
         MDAR          LINE
         MDAS'F'N      1
         ARMD          CLPTR

U3:      ARMD'Ø        NEWL           [SET NEW LINE FLAG
         MDAR          NEWL           [WAIT FØR IT TØ BE RESET
         JPAN          •-1
         MDAR          DGRP           [GET ADDR ØF PØP ENTRY
         MDAS          CLPTR
         ARMD          TEMP1
         MDAR'I        TEMP1          [SAVE PØP ENTRY
         ARMD          TEMP2
         MDAR          CLPTR          [UPDATE DISPLAY              PØINT
         ARMD          $CLINE
         MDAR          WBUF           [SWAP ENTIES
         ARMD'I        TEMP1
         MDAR          TEMP2
         ARMD          WBUF
U4:      MDAR          DGRP           [REMØVE HIDDEN LINES
         ARMD          RGRP
         JPSR          REMØF
         JPSR          GSPØT
         MDAR          TIME           [UPDATE TIME
         MDAE          FTIME
         JPSR          TIMED
         ARXØ'F
         ARMD          WAIT1          [RESET WAIT FLAG
         MDIR          LDU

UBRØUTINE FØR FREQ BAND UPDATE

U:       JUMP          •
         MDAR'N        LINE           [RESET LINE CØUNT
         MDAS'F        1
         ARMD          LCTR
         MDAR          WGRP           [GET CURRENT LINE PTR
         MDAS          CLPTR
         ARMD          CWPTR
         MDAR          WGRP           [GET LAST LINE PTR +1
         MDAS          LINE
         ARMD          LPTR
U1:      MDAR'I        CWPTR          [GET DATA BUFFER
         ARMD          CWBUF
         JPSR          READ           [INPUT DATA
         JPSR          $FINSH
```

```
   MDAR'N          GRP
   MDAS'F          1
   ARMD            GCTR
   MDAR'F          RBUF
   ARMD            FRBUF
```

```
          MDAR'F          SCL1
          ARMD            FSCLN
U2:       JPSR            SCLD
CLN:                      0
BUF:                      0
BUF:                      0
                          NPTR

          MDAR'X          GCTR
          JPLS            .+2
          JUMP            FBU3
          MDAR'X          FSCLN
          MDAR            FRBUF
          MDAS            NPTR
          ARMD            FRBUF
          MDAR            CWBUF
          MDAS            NPTR
          ARMD            CWBUF
          JUMP            FBU2

U3:       MDAR'X          CWPTR           [BUMP BUFFER PTR
          MDXO            LPTR            [END OF BUFFER
          JPLS            .+3             [NO, CONTINUE
          MDAR            WGRP            [YES, RESET POINTER
          ARMD            CWPTR
          MDAR'X          LCTR            [BUMP LINE COUNT
          JPLS            FBU1
          MDAR            WGRP
          ARMD            RGRP
          JPSR            REMOV           [REMOVE HIDDEN LINES
          JPSR            SWITCH
          MDAR'L                          [RESET WORK BUFFER
          MD05            CBLK
          ARMD            WBUF
          MDIR'X          FBU

UBROUTINE TO SCALE INPUT DATA

LD:       JUMP            .
          MDAR'L                          [RESET MOVE INSTRUCTION
          MDAR'A          M1
          ARMD            SD3

          MDAR'I          SCLD            [GET ADDRESS OF SCALE
          ARMD            SCLA

          MDAR'I'X        SCLD            [GET INPUT BUFFER
          MDAS'F'N        1
          ARMD            IB
```

```
           MDAR'I'X        SCLD            [GET OUTPUT BUFFER
           MDAS'F'N        1
           ARMD            OB
           MDAR'I'X        SCLD            [GET WORD COUNT
           ARMD            TEMP
           MDAR'N'I        TEMP
           MDAS'F          1
           ARMD            LCTR1

1:         MDAR'I'X        IB              [SCALE INPUT DATA
           MPYL'I          SCLA
           0
           ARMD            TEMP            [CLECK FOR OVERFLOW
           MDAE'N          YMAX
           JPAN            .+3
           MDAR            YMAX
           JUMP            SD2
           MDAR            TEMP

2:         ARRS            12.             [SCALE DATA
           0
           MDAR'A          YMASK           [MASK SCALED DATA
           ARMD            TEMP
           MDAR'N          YMASK           [MASK OUT PREVIOUS VALUE
           MDAR'I'X'A      OB
           MDAS            TEMP            [UPDATE CRNT VALUE
3:         0                               [SET DRAW/MOVE BIT
           ARMD'I          OB

           MDAR'L                          [SET DRAW INSTRUCTION
           MDAR'O          C1
           ARMD            SD3

           MDAR'X          LCTR1           [DUMP WORD COUNT
           JPLS            SD1             [AND CONTINUE
           MDIR'X          SCLD            [RETURN

AX:        377777777
ASK:       77776

UBROUTINE TO READ NEW DATA

AD:        JUMP            .
           MDAR'K          $SW81           [WAIT FOR NEW DATA
           JPAN            .-1
           MDAR'F          RBUF
           JPSR            GET93
           MDIR            READ
```

```
UBRØUTINE TØ SWITCH DISPLAY BUFFER

ITCH:        JUMP              .
             MDAR              $NBUF
             JPAN              .-1               [WAIT IF LAST NEW BUFF NØT HANDLED
             JPSR              MØVED
                               ABLK
                               $GRP0
                               LINE
             MDAR'F            $GRP0
             ARMD              WGRP
             MDAR'F            $GRP1
             ARMD              DGRP
             MDAR'B            ALTB
             ARMD              ALTB
             JPAN              SWIT
             JPSR              MØVED
                               BBLK
                               $GRP1
                               LINE
             MDAR'F            $GRP0
             ARMD              DGRP
             MDAR'F            $GRP1
             ARMD              WGRP
IT:          ARMD'Ø            $NBUF
             JPSR              GSPØT
             MDIR              SWITCH
TB:          2525252525

UBRØUTINE TØ REMØVE HIDDEN LINES

MØF:         JUMP              .                 [SINGLE LINE REMØVEAL ENTRY
             ARMD'Ø            LØPT              [SET SINGLE LINE ØPTIØN
             JUMP              REM4

MØV:         JUMP              .                 [CØMPLETE REMØVAL ENTRY
             ARXØ'F                              [CLEAR SINGLE LINE FLAG
             ARMD              LØPT

ESTØRE DRAW BITS

             MDAR'N            LINE              [RESET LINE CØUNT
             MDAS'F            1
             ARMD              LCTR
M1:          MDAR              RGRP              [GET CURRENT LINE ADDR
             MDAS'N            LCTR
             ARMD              CADR
             MDAR'I            CADR
             ARMD              CADR
             MDAR'N            GRP
             MDAS'F            1
             ARMD              GCTR
```

```
M2:        MDAR'N         NPTR          [RESET POINT COUNT
           MDAS'F         2             [SKIP FIRST WORD
           ARMD           PCTR
           MDAR'I         CADR
           MDAR'A         M1
           ARMD'I         CADR
M3:        MDAR'I'X       CADR          [GET DATA WORD
           MDAR'O         C1            [RESTORE DRAW BIT
           ARMD'I         CADR
           MDAR'X         PCTR          [BUMP POINT COUNT
           JPLS           REM3
           MDAR'X         GCTR          [BUMP GROUP COUNT
           JPLS           .+2
           JUMP           .+3           [END OF GROUP
           MDAR'X         CADR          [BUMP ADDRESS TO SKIP FIRST PTR
           JUMP           REM2
           MDAR'X         LCTR          [BUMP LINE COUNT
           JPLS           REM1

ET UP POINTER ADDRESS

M4:        MDAR           CLPTR         [GET CRNT LINE PTR
           ARMD           RPTR          [SET REFERENCE LINE PTR

M5:        ARMD           TPTR          [RESET TEST LINE PTR
           MDAR           XINC          [GET SPACING IN POINTS
           ARMD           XOFF          [INITIAL OFFSET

           ARXO'F                       [EXTEND SIGN
           MDAS           LDYN
           ARMD           YINC
           ARMD           YOFF

           MDAR           RGRP          [SET UP REFERENCE DATA ADDR
           MDAS           RPTR
           ARMD           RBLK
           MDAR'I         RBLK
           MDAR'A         MADR
           ARMD           RADR

M6:        MDAR'X         TPTR          [BUMP TPTR MODULO LINE
           MDXO           LINE
           JPLS           .+2
           ARMD           TPTR
           MDAR           CLPTR         [ONCE AROUND THE LOOP
           MDXO           TPTR
           JPLS           REM7          [NO - PROCESS LINE
```

```
         MDAR          LOPT           [YES - IT IS SINGLE LINE OPTION
         ANIR          REMOF          [YES - DONE
         MDAR'X        RPTR           [BUMP RPTR MODULO LINE
         MDXO          LINE
         JPLS          .+2
         ARMD          RPTR
         MDAR          RPTR           [END OF REFERENCE
         MDAS'F        1
         ARMD          TEMP
         MDXO          LINE           [MODULO LINE
         JPLS          .+2
         ARMD          TEMP
         MDAR          TEMP           [ONCE AROUND
         MDXO          CLPTR
         JPLS          .+2            [NO - GET NEXT REFERENCE LINE
         MDIR          REMOV          [RETURN
         MDAR          RPTR
         JUMP          REM5

M7:      MDAR          TPTR           [GET TEST DATA ADDR
         MDAS          RGRP
         ARMD          TBLK
         MDAR'I        TBLK
         MDAR'A        MADR
         ARMD          TADR

         MDAR          XOFF           [GET ABSOLUTE OFFSET DISTANCE
         JPAN          .+2
         JUMP          .+3
         ARXO'F
         MDAS'N        XOFF
         MDAS'N        C1
         JPAN          .+2
         JUMP          .+2
         ARXO'F
         ARMD          TP1
         ARXO'F
         ARMD          TP2

         MDAR          R1             [CHECK OFFSET DISTANCE
         MDAS'N        TP1            [WITHIN FIRST GROUP
         JPAN          .+2            [NO
         JUMP          REM20          [YES, TO TEST POINTS
         MDAR          GRP            [ONE GROUP OPTION
         MDXO'F        1
         JPLS          .+2            [NO
         JUMP          REM25          [YES, DONE
         MDAR          R2             [WITHIN FIRST GAP
         MDAS'N        TP1
         JPAN          REM8           [NO
         MDAS          TP2            [YES, BUMP TP2 PASS GAP
         ARMD          TP2
         MDAR          L1             [RESET TP1
         ARMD          TP1
```

```
   JUMP            REM20          [TO TEST POINTS
```

```
EM8:     MDAR           R3              [WITHIN SECOND GROUP
         MDAS'N         TP1
         JPAN           REM9            [NO
         MDAR           TP1             [YES, RESET GAP
         MDAS'N         GAP
         MDAS           C1
         ARMD           TP1
         JUMP           REM20           [TO TEST POINTS
EM9:     MDAR           GRP             [TWO GROUP OPTION
         MDXO'F         2
         JPLS           .+2             [NO
         JUMP           REM25           [YES, DONE
         MDAR           R4              [WITHIN SECOND GAP
         MDAS'N         TP1
         JPAN           REM10           [NO
         MDAS           TP2             [YES, BUMP TP2 PASS GAP
         ARMD           TP2
         MDAR           L2              [RESET TP1
         ARMD           TP1
         JUMP           REM20           [TO TEST POINTS
EM10:    MDAR           R5              [WITHIN THIRD GROUP
         MDAS'N         TP1
         JPAN           REM25           [YES, DONE
         MDAR           TP1             [YES, RESET TP1
         MDAS'N         GAP             [DOUBLE GAP
         MDAS'N         GAP
         MDAS           C2
         ARMD           TP1
         JUMP           REM20           [TO TEST POINTS

EM11:    MDAR'X         TP1             [BUMP TEST POINT 1
         MDXO           L1              [COMPARE FIRST BREAK POINT
         JPLS           REM12           [NO
         MDAR           GRP             [YES, CHECK ONE GROUP OPTION
         MDXO'F         1
         JPLS           .+2             [NO
         JUMP           REM25           [YES, DONE
         JPSR           PGAP            [ADVANCE TP2
                        TP2
                        TP1
         JUMP           REM20           [TO TESET POINTS
EM12:    MDAR           TP1             [COPMARE SECOND BREAK POINT
         MDXO           L2
         JPLS           REM13           [NO
         MDAR           GRP             [YES, CHECK TWO GROUP OPTION
         MDXO'F         2
         JPLS           .+2             [NO
         JUMP           REM25           [YES, DONE
         JPSR           PGAP            [ADVANCE TP2
                        TP2
                        TP1
         JUMP           REM20           [TO TEST POINTS
EM13:    MDAR           TP1             [COMPARE LAST BREAK POINT
         MDXO           L3
```

```
   JPLS           .+2            [NO
   JUMP           REM25          [YES, DONE
```

```
         MDAR'X         TP2             [BUMP TEST POINT 2
         MDXO           L1              [COMPARE FIRST BREAK POINT
         JPLS           REM14           [NO
         MDAR           TP1
         MDAS'N         C1
         ARMD           TP1
         JPSR           PGAP            [ADVANCE TP1
                        TP1
                        TP2
         JUMP           REM20           [TO TEST POINTS
M14:     MDAR           TP2             [COMPARE SECOND BREAK POINT
         MDXO           L2
         JPLS           REM20           [NO, TO TEST POINTS
         MDAR           TP1
         MDAS'N         C1
         ARMD           TP1
         JPSR           PGAP            [ADVANCE TP1
                        TP1
                        TP2
         JUMP           REM20

UBROUTINE TO ADVANCE TEST POINTS PASS GAP

AP:      JUMP           .
         MDAR'I         PGAP            [GET ADDR OF TEST POINTS
         ARMD           TEST1
         MDAR'I'X       PGAP
         ARMD           TEST2
         MDAR'I         TEST1           [BUMP PASS GAP
         MDAS           GAP
         ARMD'I         TEST1
         MDAR           L1              [CHECK PASS BREAK POINT
         MDAS'I'N       TEST1
         JPAN           .+2             [YES
         MDIR'X         PGAP            [NO, RETURN
         MDAS           GAP             [CHECK PASS GAP
         JPAN           GAP1            [YES
         MDAS'N         C1              [NO, ADJUST POINTS
         MDAS'I         TEST2
         ARMD'I         TEST2
         MDAR           L1
         ARMD'I         TEST1
         MDIR'X         PGAP
P1:      MDAR           L2              [CHECK PASS SECOND BREAK POINT
         MDAS'N'I       TEST1
         JPAN           .+2             [YES
         MDIR'X         PGAP            [NO, RETURN
         MDAS           GAP             [CHECK PASS GAP
         ANIR'X         PGAP            [NO, RETURN
         MDAS'N         C1              [ADJUST TEST POINT
         MDAS'I         TEST2
         ARMD'I         TEST2
         MDAR           L2
         ARMD'I         TEST1
```

```
20:    MDAR          L3            [CHECK LINE TERMINATION
       MDAS'N        TP1
       JPAN          REM25
       MDAR          L3
       MDAS'N        TP2
       JPAN          REM25

       MDAR          XOFF          [DETERMINE QUADRANT
       JPAN          REM21         [QUADRANT 3
       MDAR          TP1           [QUADRANT 4
       MDAS          TADR          [OFFSET TEST LINE
       ARMD          TEST1
       MDAR          TP2
       JUMP          REM22
21:    MDAR          TP2           [OFFSET REFERENCE LINE
       MDAS          TADR
       ARMD          TEST1
       MDAR          TP1
22:    MDAS          RADR
       ARMD          TEST2

       MDAR'I        TEST1         [CHECK DRAW BIT
       MDAR'A        C1
       JPLS          .+2           [ON
       JUMP          REM11         [OFF, GET NEXT POINT
       MDAR'I        TEST1         [GET TEST VALUE
       MDAR'A        YMASK
       MDAS'N        YOFF          [ADD OFFSET
       ARMD'H        TDATA         [SAVE IT
       MDAR'I'H      TEST2         [GET REFERENCE VALUE
       MDAR'A'H      YMASK
       MDAE'N        TDATA         [COPMARE VALUE
       JPAN          REM11         [OK, TRY NEXT POINT
       MDAR'I        TEST1         [ELSE, REMOVE POINT
       MDAR'A        M1            [CLEAR DRAW BIT
       ARMD'I        TEST1
       JUMP          REM11         [NEXT POINT

25:    MDAR          XOFF          [BUMP OFSET SPACING
       MDAS          XINC
       ARMD          XOFF
       MDAR          YOFF
       MDAS          YINC
       ARMD          YOFF
       MDAR'I        RBLK          [RESET REF ADDR
       MDAR'A        MADR
       ARMD          RADR
       JUMP          REM6          [DO NEXT LINE
```

```
T:        0                  [SINGLE LINE ØPTIØN INDICATØR
R:        0                  [CURRENT LINE ADDR
R:        0                  [REFERENCE LINE PØINTER
R:        0                  [TEST LINE PTR
F:        0                  [X-ØFFSET
F:        0                  [Y-ØFFSET
K:        0                  [REFERENCE BLØCK PTR
K:        0                  [TEST BLØCK PTR
R:        0                  [REFERENCE DATA ADDR
R:        0                  [TEST DATA ADDR
TA:       0                  [TEST DATA
R:        0                  [TØTAL PØINTS
F:        0
C:        0
C:        0
:         0
:         0
          0
          0
          0
          0
          0
          0
          0
          0.
T1:       0
T2:       0
```

```
UBROUTINE   FOR AXES ROTATION

T:          JUMP                .
            MDAR                $TVCDC          [READ DIAL C
            ARRS                1               [SCALE FOR +/- 90 DEG IN RAD
            ARMD                TEMP            [SAVE IT
            MDAE'N              LROT            [DIFFERENCE OF LAST SETTING
            ARMD                TEMP1
            JPAN                .+2             [GET ABS VALUE
            JUMP                ROTO
            ARXO'F
            MDAE'N              TEMP1

TO:         MDAE'N              DZONE           [OFF DEAD ZONE
            ANIR                ROT             [NO, RETURN

            MDAR                TEMP            [UPDATE LAST SETTING
            ARMD                LROT
            ARAR'F'H                            [GET SIN AND COS
            MDAR'A              MADR
            JPSR                ANGLE
            ARAR'F'N
            MDAR'A              MADR
            ARMD                LDYN
            MDAR'N              LINE            [TRANSFER GROUP DATA
            MDAS'F              1
            ARMD                LCTR
```

```
ØT1:        MDAR'N          LCTR
            MDAS            DGRP             [GET BLØCK ADDR
            ARMD            LPTR
            MDAR'I          LPTR
            ARMD            IB
            MDAR'N          LCTR             [GET DESTINATIØN BLØCK
            MDAS            WGRP
            ARMD            LPTR
            MDAR'I          LPTR
            ARMD            ØB
            MDAR            NPTR             [GET WØRD CØUNT
            MPYL            GRP
            0
            ARRS            1
            ARMD            PCTR
            JPSR            MØVED            [TRANSFER BLØCK
3:                          0
3:                          0
                            PCTR
            MDAR'X          LCTR             [BUMP LINE CØUNT
            JPLS            RØT1             [DØ NEXT LINE

            MDAR            WGRP
            ARMD            RGRP
            JPSR            REMØV            [REMØVE HIDDEN LINES
            JPSR            CDXDY            [SET DXDY TABLE
            JPSR            SWITCH           [SWITCH DISPLAY BUFFER
            MDAR'L
            MD05            CBLK             [RESET WØRKING LINE BUFFER
            ARMD            WBUF
            MDIR            RØT

SUBRØUTINE TØ ADJUST SPØT LIGHT SEARCH


LADJ:       JUMP            .
            MDAR            GRP              [RESET SPØT CØUNT
            MDAS'F'N        1
            ARXØ'F'H
            JPLS            .+3
            MDAR'N          NSL
            JUMP            .+2
            MDAR'N          GRP
            MDAS'F          1
            ARMD            GCTR
            ARMD            TEMP2
            MDAR'F          CS1-1            [ADDR ØF CENTER SPØT
            ARMD            SLAD6
            MDAR'F          LP1-1            [ADDR ØF LEAD PØINT
            ARMD            SLAD7
            MDAR'F          EP1-1            [ADDR ØF END PØINT
            ARMD            SLAD8
            MDAR'F          HARM1-1          [ADDR ØF HARMØNIC GRØUP
            ARMD            SLAD9
```

```
        MDAR'F          $TVCDA          [GET DIAL ADDR
        MDAS'F'N        1
        ARMD            SLAD3
        MDAR'F          SPOT-1          [ADD OF SPOT WORD
        ARMD            SLAD4
        MDAR'F          LSP1-1
        ARMD            SLAD12          [SAVE FWA-1 OF LAST SPOT DIAL VALUES
        ARXO'F
        ARMD            SLAD13          [RESET NEW DIAL VAL FLAG

SL:     MDAR'I'X        SLAD3           [GET DIAL READING
        ARRS            1
        ARMD            TEMP1           [SAVE IT
        MDAE'N'I'X      SLAD12          [GET DIFF. WITH LAST TIME
        JPAN            .+2             [GET ABS. VAL OF DIFF
        JUMP            .+2
        ARAR'F'N
        MDAE'N          DZONE           [OFF DEAD ZONE
        JPAN            .+4             [NO, GET NEXT ONE
        ARMD'O          SLAD13          [YES , SET FLAG
        MDAR            TEMP1           [GET DIAL READING
        ARMD'I          SLAD12          [SAVE FOR NEXT TIME
        MDAR'X          GCTR            [BUMP SPOT COUNTER
        JPLS            5SL             [JUMP IF MORE

        MDAR'N          SLAD13          [ELSE CHECK NEW VAL FLAG
        ANIR            SLADJ           [RETURN IF NO UPDATE REQD

        MDAR            TEMP2           [ELSE RESET SPOT COUNTER
        ARMD            GCTR
        MDAR'N          STOG            [TOGGLE
        ARMD            STOG
        MDAR'F          LSP1-1          [GET FWA-1 OF CRNT DIAL VALS
        ARMD            SLAD3           [SAVE IT

AD0:    MDAR'I'X        SLAD3           [GET DIAL READING
        MDAE            OFSET           [SCALE READING
        ARAR'F'H
        MPYL            NPTR            [COMPUTE NO. OF POINTS
        0
        ARAR'F'H
        MDAR'A          MADR            [MASK LOWER SIGNIFICANCE
        ARMD            TEMP            [SAVE IT

AD1:    MDAS'I'X        SLAD7           [ADD LEAD POINT
        ARMD            TEMP1
        MDAS            IWIDE
        ARMD            TEMP2
        MDAS'I'X'N      SLAD8           [CHECK LINE BOUND
        JPAN            .+2
        JUMP            SLAD5
```

```
LAD2:      MDAR          TEMP1
           ARMD'I'X      SLAD4
           MDAR          IWIDE
           ARRS          1
           MDAS          TEMP1
           ARMD'I'X      SLAD6          [SET CENTERS

           MDAR          HSL            [HARMONIC OPTION
           JPAN          SLAD10
           MDAR'X        GCTR           [END OF GROUP
           JPLS          SLAD0          [NO, NEXT
           JPSR          GSPOT
           JPSR          FREQD
           MDAR          $AUXD          [SIDE LINE OPTION
           JSAN          SPU            [UPDATE SIDE LINE SPOTS
           MDIR          SLADJ          [RETURN

LAD3:      0
LAD4:      0

LAD5:      MDAR'I        SLAD8          [GET HARD STOP
           MDAS'N        IWIDE
           ARMD          TEMP1
           JUMP          SLAD2

LAD6:      0
LAD7:      0
LAD8:      0
LAD9:      0

LAD10:     MDAR'X        GCTR
           JPLS          .+2
           JUMP          SLAD11
           MDAR          GRP            [SEE IF GROUP=1
           MDXO'F        1
           JPLS          SLADH          [NO, DO HARMONIC
           MDAR          TEMP           [YES, GET DIAL A
           MDAS          IPL            [ADDED FIXED LENGTH
           ARMD          TEMP
           JUMP          SLAD1

ADH:       MDAR          HC             [COMPUTE (1-H)*NPTR/2
           MDAS'N'I'X    SLAD9
           MPYL          NPTR
           0
           ARRS          11.
                         0
           ARMD          HB
           MDAR          TEMP           [GET DIAL A READING
           MPYL'I        SLAD9          [COMPUTE H*A
           0
           ARRS          10.
           0
           MDAS          HB             [COMPUTE HA+(1-H)NPTR 2
```

```
        JPAN        .+2         [SET TO ZERO IF NEGATIVE
        JUMP        .+2
        ARXO'F
        ARMD        HA
        MDAS'N      NPTR        [LIMIT TO NPTR
        JPAN        .+3
        MDAR        NPTR
        JUMP        SLAD1
        MDAR        HA
        JUMP        SLAD1

LAD11:  JPSR        GSPOT
        JPSR        FREQD
        MDAR        $AUXD       [SIDE LINE OPTION
        JSAN        SPU         [UPDATE SPOTS
        MDIR        SLADJ

LAD12:  0
LAD13:  0
A:      0
B:      0
C:      1000
```

```
SUBROUTINE TO MOVE THE SPOTS

SPOT:          JUMP          .
               MDAR          STOG                [GET TOGGLE
               JPAN          .+3                 [JUMP IF WANT 1SPOT SET
               MDAR'F        SPL-1               [ELSE OSPOT SET
               JUMP          .+2
               MDAR'F        1SPL-1
               ARMD          DPTR                [SAVE DISPLAY PTR
               ARMD          SPLL                [  AND FOR DISPLAY PROG. ALSO
               MDAR'N        LINE                [RESET LINE COUNT
               MDAS'F        1
               ARMD          LCTR
               MDAR          DGRP                [GET LINE DATA ADDR
               MDAS          CLPTR
               ARMD          GSP5
               MDAR          DGRP                [GET ADDR OF LAST LINE
               MDAS          LINE
               ARMD          LPTR
SP0:           MDAR'F        SPOT-1              [GET SPOT POINTER
               ARMD          SPTR
               MDAR'N        NSPOT               [GET SPOT COUNT
               MDAS'F        1
               ARMD          GCTR
               MDAR'I'X      DPTR                [SET UP DISPLAY ADDR
SP1:           ARMD          GSP3
               MDAR'I        GSP5                [SET UP SPOT DATA
               MDAS'I'X      SPTR
               ARMD          GSP2
               JPSR          MOVED               [XFER SPOT DATA
SP2:                         0
SP3:                         0
                             IWIDE
               MDAR'I        GSP3                [MAKE 1ST WORD A MOVE
               MDAR'A        M1
               ARMD'I        GSP3
               MDAR'X        GCTR                [BUMP COUNT
               JPLS          .+2
               JUMP          GSP4                [DONE
               MDAR          GSP3                [BUMP TRANSFER ADDR
               MDAS          IWIDE
               JUMP          GSP1

SP4:           MDAR          GSP3                [SET EOL
               MDAS          IWIDE
               MDAS'F'N      1
               ARMD          TEMP
               MDAR'I        TEMP
               MDAR'O'H      C1
               ARMD'I        TEMP
```

```
           MDAR'X         LCTR            [BUMP LINE COUNT
           JPLS           .+4
           MDAR           SPLL            [STORE ADDR OF SPOT DISPLAY LIST
           ARMD           SPLP
           MDIR           GSPOT

           MDAR'X         GSP5            [BUMP LINE PTR
           MDXO           LPTR
           JPLS .         GSP0
           MDAR           DGRP            [WRAP AROUND
           ARMD           GSP5
           JUMP           GSP0

P5:        0

UBROUTINE TO ADJUST AMPLITUDE SCALING

ADJ:       JUMP           .

           ARMD'O         DONT            [CLEAR DON'T FLAG

           MDAR'N         GRP             [RESET LINE COUNT
           MDAS'F         1
           ARMD           GCTR
           MDAR'F         $TVCDD          [GET CONTROL DIAL ADDR
           MDAS'F'N       1
           ARMD           SCA
           MDAR'F         SCL1-1          [ADDR OF SCALES
           ARMD           SCLN
           MDAR'F         LSC1-1          [ADDR OF PREVIOUS SCALE
           ARMD           LSCN

AD1:       MDAR'X         SCLN            [BUMP ADDR OF SCALES
           MDAR'I'X       SCA             [READ CONTROL DIAL
           ARRS           1
           ARMD           TEMP            [SAVE IT
           MDAE'N'I'X     LSCN            [GET DIFFERENCE
           ARMD           TEMP1           [GET ABS VALUE
           JPAN           .+2
           JUMP           SCAD2
           ARXO'F
           MDAE'N         TEMP1
AD2:       MDAE'N         DZONE           [OFF DEAD ZONE
           JPAN           SCAD3           [NO
           ARXO'F                         [YES, SET DOIT FLAG
           ARMD           DONT
           MDAR           TEMP            [UPDATE PAST SCALE
           ARMD'I         LSCN
           MDAE           OFSET           [BIAS DIAL READING
           ARAR'F'H
           MDAR'A         MADR
           ARMD'I         SCLN            [SAVE SCALE
```

```
CAD3:     MDAR'X         GCTR           [NEXT GROUP
          JPLS           SCAD1

          MDAR           DONT           [COMPARE PREVIOUS VALUE
          MDXO           SCAD6
          JPLS           .+2            [SEND IF DIFFERENT
          JUMP           SCAD4          [NO DIFFERENT

          MDAR           $SWO1          [SEND DONT FLAG
          ARMD           A9300
          JPSR           $ROWFW
                         -0
                         A9300
                         DONT
                         1

CAD4:     MDAR           DONT           [UPDATE PASS VALUE
          ARMD           SCAD6
          JPSR           $FINSH
          MDAR           DONT
          ANIR'X         SCADJ

CAD5:     JPSR           FBU            [SCALE AND UPDATE DATA
                         0
          MDIR'X         SCADJ

CAD6:     0


CHTY:     0              [INPUT 8 BIT CODE FROM TTY

          MDAR'I         ICHTY          [GET INP-MODE CONTROL CODE
          ARMD           .+6
          MDAR'F         TTYIB
          ARMD           TTYBR
          ARXO'F
          ARMD           TTYC
          JPSR           TTWT
                         0
          MDAR           TTYC
          JUMP'I'X       ICHTY

TYIB:     JUMP           .
          ARMD'L
TYCC:                    0
          MDAR           TTYC
          ARRS           1

          MDAR'O'K       C2
          SKUA           1
          MDXO'K         C2
          ARMD           TTYC
          MDAR           TTYCC
          MDIR           TTYIB
```

```
WT:          JUMP            0

             MDIR'A          ØFTTY
             MDAR'F          TTØB
             ARMD            TPVT2
             MDAR'F          TTYB
             ARMD            TPVT1
             MDAR            S3ØVF
             ARMD            ØVFPV
             MDAR            S3A
             MDIC'I'Ø        TTWT
             MDIR            WT1

ØB:          JUMP            .
             JPSR'I          TTYBR
             MDIC'L'A
TTY:TPTØF:   TTYØF
             ARMD            TTYCC
             MDAR'F          NØ
             ARMD            WT1+2
             MDAR'F          WT1
             FPRI
             ARMD'I          LQP
             MDAR'F          WT1+2
             ARMD            LGP
             UPRI
             PINT
             MDAR            TTYCC
             JUMP'I          TTØB

A:           0
ØVF:         0
YC:          0

YB:          0

             JPSR'I          TTYBR
             JUMP'I          TTYB

YBR:         0


T:           JUMP            0
             ARMD'L
TA:          0
             MDAR            ØVFPV
             ARMD'L
TØ:          0
             FPRI
             MDAR'I          ENT
             ARMD            PINPV
             MDXØ'F          NØ
             JPLS            .+3
```

```
       MDAR'F          PINPV
       ARMD            LQP

       UPRI
       ARXØ'F
       ARMD'I'X        ENT
       MDIR'X          ENT

XT:    JUMP'I          0
       MDAR            ENTØ
       ARMD            ØVFPV
       MDAR            ENTA
       PINT
       JUMP'I          EXT
GP:                    PINPV

T1:    JUMP            *
       JPSR            ENT
                       0
                       0
       MDAR            ENTØ
       ARMD            S3ØVF
       MDAR            ENTA
       ARMD            S3A
       ARXØ'F
       ARMD            ENTØ
       ARMD            ENTA
       ARMD            ØVFPV
       PINT
       JUMP'I'X        TTWT

ØNT:   0
SCN:   0
SC1:   0
SC2:   0
SC3:   0
ZØNE:  3700000
RØT:   0
SKSW:  77777700
```

```
        VERSION 11  REVISION 3  CREATED 06 JUN 66       DATE                    PA

ARAMETER INPUT LIST

L:           0                  [FIXED SPOTLITE INTERVAL
NE:          10.                [NUMBER OF SPECTRUM LINES
P:           1                  [NUMBER OF HARMONIC GROUPS
TR:          150.               [NUMBER OFPOINT PER LINE
L:           1                  [NUMBER OF SPOT LIGHTS
MEO:         4000.              [STARTING TIME IN SECONDS
IME:         32.                [FFT UPDATE TIME IN SECONDS
SO:          1000               [FREQ RESOLUTION
1:           0                  [START OF GROUP 1
2:           0                  [START OF GROUP 2
3:           0                  [START OF GROUP 3
RM1:         1                  [HARMONIC FACTOR
RM2:         1
IDE:         10.
RAM:         18.
HUT:         0
TL:          0
TS:          0
TSL:         0
TL9:         0
TX:          100
AP:          1400

ARAMETER OUTPUT LIST

GHT:         -0                 [SPOT LIGHT OPTION
L:           0                  [HARMONIC RELATED SPOT OPTION
NCT:         0

OCAL PARAMETERS

:            1
:            67776              [2 1/2 INCH X AXES OFFSET
:            0                  [NO Y AXES OFFSET
LX:          100                [.039 INCH FOR SIDE LINE DISPLAY
OYO:         7600012000         [SIDE LINE DISPLAY ORIGIN
DR:          77777              [ADDRESS MASK
8:           22
35:          -35.
2:           -2
9:           9.
3:           13.
0:           40
:            6
FSET:        2000000000         [SPOTLIGHT DIAL OFFSET
:            0
:            2
:            3
:            4
:            5
```

```
611:         7700777777
1217:        7777007777
1823:        7777770077
2429:        7777777700
1629:        37777
1:           -1
1M1:         100001
16200:       16200
17:          17.

LØCAL VARIABLES

CTR:         0                  [WØRD CØUNT
CTR:         0                  [RUNNING LINE CØUNT
LINE:        0                  [CURRENT A BLØCK PTR
LINE:        0                  [CURRENT B BLØCK PTR
CTR:         0                  [RUNNING GRØUP CØUNT
SP:          0                  [INITIAL DISPLAY ØRDINATES
CTR:         0                  [RUNNING PT CØUNT
BA:          0                  [DXDY TABLE PTR
CXN:         0                  [INCREMENTAL DX VALUE
DYN:         0                  [ DITTØ DY
DXY:         0                  [CURRENT DXDY VALUE
EMP:         0
EMP1:        0
EMP2:        0
BA:          0                  [DESTINATIØN ADDR PTR
IME:         0                  [UPDATE TIME
NTGT:        0                  [INTEGER VALUE TØ BE CØNVERTEED
CN:          0                  [  STATUS
CTR:         0                  [  CØUNT
PTR:         0
S1:          0                  [CENTER SPØTLIGHT PØINT
S2:          0
S3:          0
F1:          0                  [CENTER SPØT FREQ
F2:          0
F3:          0
P1:          0
P2:          0
P3:          0
P1:          0
P2:          0
P3:          0
AIT1:        0
EWL:         0
```

```
UF:         LOC(.+150.)         [INPUT DATA BUFFER

L1:         400                 [GROUP 1 SCALE
L2:         400                 [      2
L3:         400                 [      3
LA:         0
XY:         0
XY:         0
XDY:        LOC(.+16.)
XDY:        LOC(.+16.)
PTR:        0                   [WORKING  BUFFER ADDR

AR:         0
FLG:        0
:0; T2:0; T3:0; T4:0; T5:0; T6:0; T7:0; T8:0

RP:         0                   [BUFFER ADDR FOR LINE REMOVAL
RP:         0                   [WORK GROUP
RP:         0                   [DISPLAY GROUP

P1:         0
P2:         0
P3:         0

LL:         0
LP:         0
OG:         0
OG:         0

PL:         MD05                1S1
            MD05                1S2
            MD05                1S3
            MD05                1S4
            MD05                1S5
            MD05                1S6
            MD05                1S7
            MD05                1S8
            MD05                1S9
            MD05                1S10
L:          MD05                S1
            MD05                S2
            MD05                S3
            MD05                S4
            MD05                S5
            MD05                S6
            MD05                S7
            MD05                S8
            MD05                S9
            MD05                S10
```

```
1:          LØC(.+30.)
2:          LØC(.+30.)
3:          LØC(.+30.)
4:          LØC(.+30.)
5:          LØC(.+30.)
6:          LØC(.+30.)
7:          LØC(.+30.)
8:          LØC(.+30.)
9:          LØC(.+30.)
10:         LØC(.+30.)

:           LØC(.+30.)
:           LØC(.+30.)
:           LØC(.+30.)
:           LØC(.+30.)
:           LØC(.+30.)
:           LØC(.+30.)
:           LØC(.+30.)
:           LØC(.+30.)
:           LØC(.+30.)
0:          LØC(.+30.)

TR:         0
ØT:         LØC(.+3)
PØT:        0
P:          0
PTR:        0
1:          0
TG:         0
A:          0
TR:         0
AS:         0
TR1:        0
T:          0
JF:         LØC(.+36.)
CS:         0
ARF:        0
300:        0
```

```
ISPLAY BUFFER PTRS

PTR:         0                  [CURRENT INPUT BUFFER POINTER
LK:          MD05               ABLK1
             MD05               ABLK2
             MD05               ABLK3
             MD05               ABLK4
             MD05               ABLK5
             MD05               ABLK6
             MD05               ABLK7
             MD05               ABLK8
             MD05               ABLK9
             MD05               ABLK10

PTR:         0                                  [CURRENT INPUT BUFFER POINTER
LK:          MD05               BBLK1
             MD05               BBLK2
             MD05               BBLK3
             MD05               BBLK4
             MD05               BBLK5
             MD05               BBLK6
             MD05               BBLK7
             MD05               BBLK8
             MD05               BBLK9
             MD05               BBLK10

UF:          MD05               CBLK            [WORKING BUFFER PONTER

LK:          LOC(.+150.)

LK:          DBLK1
:            JUMP               .
             MDIR               NO

RMINATE
```

```
          VERSIØN  2  REVISIØN C  CREATED 31 JAN 75      DATE

EXPUNGE

TITLE TWDIS

[DISPLAY SUBRØUTINE FØR ESP
[VERSIØN 2, REVISIØN C
[1/31/75

NØCARRET
ENTRY DISPL,
CHARS,ECHAR,
LALX,LA20,LA30,
EØLL,LL5,LL20,LL50,LL70,
EØLS,LS5,LS50,
EØLT,LT5,
FCLH,FC5,FC10,FC30,FC80,FC90,
EØLX,LX5,END2,
AVGØN,LCNT,SFLG,LGRP,GRP0,GRP1,LASTL,LPTR,NLINE,
GEND,PXY,TDAT,TDAT1,HØUR1,HØUR2,MIN1,MIN2,SEC1,SEC2,
F1L1,F1R1,F2L1,F2R1,F3L1,F3R1,S1A,S2A,S3A,S4A,S5A,S6A,
S7A,S8A,S9A,S10A,S11A,S12A,S13A,S14A,S15A,S16A,F1A,F2A,
SPØT,DDUN,TEMP1,TEMP2,TEMP3,
SCALE,NADAT,CLINE,
F2L3,F3R2,S5B,S12B,F3R4,F1L3,F1B,S6B,F3L2,S13B,S15B,
F2R3,F2B,S7B,F2L2,S10B,S2B,S14B,F3R3,S8B,F1L2,S3B,
S11B,CLINE,F3L3,F2R2,S9B,S4B,S16B,F2R4,S1B,
TCNT,NBUF,AUXD,NDXDY,DCNT,FNS,LFNS;
CARRET
[SYMBØL DEFINITIØNS

EØLPV=77757;  EØVPV=77756;  EØSPV=77736;  EØWPV=77735;  FCLPV=77755

MD05=25000√H;  MD06=26000√H;  MD07=27000√H;  MD10=30000√H;  MD11=31000√H

[FØLLØWING GENERATES VALUES (ASCII) FØR THE SYMBØLS: A.,B.,,,,Y.,Z.
[FØR USE IN CALLS TØ P MACRØ

ZZZ=101
REPEAT ZZ,(A,B,C,D,E,F,G,H,I,J,K,L,M,N,Ø,P,Q,R,S,T,U,V,W,X,Y,Z)
ZZ\.=ZZZ
ZZZ=ZZZ+1
ENDI
P.=120

[P MACRØ FØR BUILDING DISPLAY WØRDS FØR THE CHAR. GENERATØR

MACRØ1 P(A1,A2,A3,A4,A5)
A1√B√K + A2√B + A5√B√K + A3√B√K + A4√B + 0
ENDM
```

```
        VERSION  2  REVISION C  CREATED 31 JAN 75     DATE

FCR MACRO TO BUILD LINE FEED AND CARRIAGE RETURN WORD FOR TEXT

ACRO1 LFCR
12,15,0,0)
DM



ISPL:       JUMP            .               [REFRESH STARTER ROUTINE

            MD11            SCALE           [SET SCALE

            MDIC'A          M10             [TURN OFF LCG
            MD10            AVGON           [TURN ON AVG, SCOPE AND CLOCK

            MDAR'N          AUXD            [SEE IF NON-AVGD CRNT LINE DISPLAY
            JPAN            DIS10           [JUMP IF NOT TO BE DRAWN

            MDAR'F          EOLX            [ELSE SPECIFY EOL HANDLER FOR IT
            ARMD            EOLPV

            MDAR'L                          [LOAD EOV PIVOT
            MD05            NADAT
            ARMD            EOVPV
            MD07            NDXDY           [SET DXDY
            MD06            $INTSL          [SET INTENSITY

            JUMP            DIS20

IS10:       MD06            $INTLO
            JPSR            LALX            [GO SET UP FOR LINES DWG

            MD07'I          PXY             [SET DXDY FOR 1ST LINE

IS20:
            MDAR'N          $PICS           [TAKING MOVIES>Q
            JPAN            DIS60           [NO, GO START REFRESH

            MDAR            NSHUT           [YES, GET NO OF REFRESHES SHUTTER
                                            [  HAS BEEN OPEN
            JPLS            .+2             [JUMP IF ALREADY AT LEAST ONE
            JUMP            DIS40           [ELSE THIS JUMP

            MDXO            $NSHUT          [OPEN REQD NO OF TIMES YET>Q
            JPLS            DIS50           [NO, LEAVE OPEN AGAIN

            MDIC'A          M1000           [YES, CLOSE SHUTTER
            S4AR'F                          [WAIT TILL CLOSED
            MDAR'F'A        1000
            JPLS            .-2

            ARXO'F                          [WAIT FOR SURE
            ARMD'L
```

```
VERSIØN  2  REVISIØN C  CREATED 31 JAN 75      DATE
   0
```

```
           MDAR'X          .-1
           MDXO'F          3720
           JPLS            .-2
           ARXO'F                         [RESET NO. OF TIMES OPEN COUNTER
           ARMD            NSHUT
           MDAR            NFRAM          [COMPARE FRAMES DONE
           MDXO            $NFRAM         [  WITH NO. REQD
           JPLS            DIS40          [JUMP IF MORE FRAMES REQD

           ARMD            NFRAM          [ELSE RESET FRAMES DONE COUNT
           ARMD            $PICS          [ AND MOVIES REQD FLAG
           JUMP            DIS60          [AND GO START REFRESH

S40:       MDAR'X          NFRAM          [BUMP NO OF FRAMES DONE
           MDIC'O          C1000          [OPEN THE SHUTTER
           S4AR'F                         [  WAIT TILL IT IS
           MDAR'F'A        1000
           JPLS            .+2
           JUMP            .-3
           ARXO'F                         [WAIT 20MSEC TO BE SURE
           ARMD'L
           0
           MDAR'X          .-1
           MDXO'F          3720
           JPLS            .-2

S50:       MDAR'X          NSHUT          [BUMP SHUTTER OPEN COUNT

S60:
           MDIR            EOVPV          [START DWG.

           MDIR            DISPL          [RETURN


LX:        JUMP            .              [ROUTINE TO SET UP FOR LINES DWG.

           ARXO'F
           ARMD            LCNT           [RESET COUNT OF LINES DRAWN

           MDAR'N          SFLG           [GET SPOTLITES REQD FLAG
           JPAN            .+2            [JUMP IF NO SPOTS
           MDO6            $INTL          [ELSE SET INT. FOR LINES WITH SPOTS

           MDAR'F          EOLL           [SPECIFY EOL HANDLER FOR LINES
           ARMD            EOLPV

           MDAR            $DTXY
           ARMD            PXY            [SAVE PTR TO DXDY TABLE

           MDAR            LGRP           [SEE WHICH LINE GROUP TO DRAW
           JPAN            LA20           [JUMP IF GROUP 1
```

```
         MDAR'F         GRP0           [ELSE GROUP 0, GET DISPLAY LIST FW
         MDAS           LASTL          [ADD NO. OF LAST RECD LIND
         ARMD           LPTR           [SAVE PTR TO LAST RECD'S LIST ENTR

         MDAR'F         GRP0           [GET DISPLAY LIST FWA AGAIN
         JUMP           LA30           [GO ON WITH CODING COMMON TO BOTH

20:      MDAR'F         GRP1           [GET GROUP 1 DISPLAY LIST FWA
         MDAS           LASTL
         ARMD           LPTR           [SAVE PTR TO LAST RECD LINE'S LIST

         MDAR'F         GRP1           [GET FWA OF DISPLAY LIST AGAIN
30:      MDAS           NLINE          [ADD NO. OF LINES TO DRAW
         ARMD           GEND           [SAVE ADDRESS OF LOCATION LIST END

         MDAR'I         LPTR           [LOAD EOV PIVOT FOR 1ST LINE
         ARMD           EOVPV

         MDIR           LALX           [RETURN



LX:      JUMP           .              [EOL HANDLER FOR NON-AVGD LINE DRA

         ARMD'L                        [SAVE AR
5:       0

         MD06           $INTLO         [SET INT. FOR LINES W/O SPOTS
         JPSR           LALX           [SET JP TO DRAW LINES NEXT

         MDAR           LX5            [RESTORE AR

         MD07'I         PXY            [SET DXDY FOR 1ST LINE

         MDIR           EOVPV          [START LINE DWG

         JUMP'I         EOLX           [CLEAR AND RETURN



LL:      JUMP           .              [EOL HANDLER FOR LINES

         ARMD'L                        [SAVE AR
5:       0

         MDAR'X         LCNT           [BUMP COUNT OF LINES DRAWN
         MDXO           NLINE          [COMPARE WITH NO. TO DRAW
         JPLS           .+2            [THIS JUMP IF MORE TO DRAW
         JUMP           LL50           [ELSE THIS JUMP , ALL DRAWN
```

```
VERSION  2  REVISION C  CREATED 31 JAN 75     DATE
       MDAR'X         LPTR           [GET NEXT DISPLAY LIST ADDRESS
       MDXO           GEND           [SEE IF BEYOND LIST END
       JPLS           LL20           [ISN'T, CONTINUE

       MDAR           LGRP           [ELSE CHECK GROUP'S ID
       JPAN           .+3            [JUMP IF GRP 1
       MDAR'F         GRP0           [GET FWA OF GRP 0 DISPLAY LIST
       JUMP           .+2
       MDAR'F         GRP1           [GET FWA OF GRP 1 DISPLAY LIST

       ARMD           LPTR           [SAVE PTR TO GROUPS DISPLAY LIST
L20:   MD07'I'X       PXY            [SET DXDY FOR NEXT LINE

       MDAR'I         LPTR           [LOAD EOV PIVOT FOR NEXT LINE
       ARMD           EOVPV

       MDAR           LL5            [RESTORE AR
       MDIR           EOVPV          [START LINE DRAW
       JUMP'I         EOLL           [CLEAR AND RETURN


L50:   MDAR           SFLG           [HERE IF LINES ALL DRAWN
       JPAN           LL70           [JUMP IF TO DRAW SPOTLITES

       MD10'A         M0429          [ELSE TURN OFF AVG
       MDAR'F         EOLT           [SPECIFY EOS HANDLER FOR TEXT
       ARMD           EOSPV

       MDAR'F         TDAT-1         [LOAD EOW PIVOT FOR TEXT DRAW
       ARMD           EOWPV

       MDAR'N         $TSFLG
       JPAN           .+3            [JUMP IF NOT DWG TEXT INPUT LINE

       MDAR'F         TDAT1-1        [RELOAD EOW PIVOT
       ARMD           EOWPV

       MDAR           LL5            [RESTORE AR

       MDIC'6         C10            [START TEXT DISPLAY

       JUMP'I         EOLL           [CLEAR AND RETURN

L70:   ARXO'F                        [HERE IF TO DRAW SPOTLITES
       ARMD           LCNT           [RESET LINES DRAWN COUNT

       MD06           $INTS          [SET INT. FOR SPOTS

       MDAR'F         EOLS           [SPECIFY EOL HANDLER FOR SPOTS
       ARMD           EOLPV

       MDAR           $DTXY
       ARMD           PXY            [SAVE PTR TO DXDY TABLE
```

```
        MDAR          $SPLP
        ARMD          LPTR          [SAVE PTR TØ SPØTS DISPLAY LIST
        MD07'I        PXY           [SET DXDY FØR 1ST SPØT

        MDAR'I'X      LPTR          [SET EØV PIVØT FØR 1ST SPØT
        ARMD          EØVPV

        MDAR          LL5           [RESTØRE AR

        MDIR          EØVPV         [START SPØT DRAW

        JUMP'I        EØLL          [CLEAR AND RETURN




LS:     JUMP          .             [EØL HANDLER FØR SPØTLITES

        ARMD'L                      [SAVE AR
5:      0

        MDAR'X        LCNT          [BUMP CØUNT ØF LINES DØNE
        MDXØ          NLINE         [CØMPARE WITH NØ. TØ DØ
        JPLS          LS50          [JUMP IF MØRE YET

        MDAR'F        EØLT          [ELSE SPØTS DØNE, SPECIFY EØS
        ARMD          EØSPV         [  HANDLER FØR TEXT DRAW

        MD10'A        M0429         [TURN ØFF AVG

        MDAR'F        TDAT-1        [LØAD EØW PIVØT FØR TEXT DRAW
        ARMD          EØWPV
        MDAR'N        $TSFLG
        JPAN          .+3           [JUMP IF NØT DWG TEXT INPUT LINE

        MDAR'F        TDAT1-1       [RELØAD EØW PIVØT
        ARMD          EØWPV

        MDAR          LS5           [RESTØRE AR,BR

        MDIC'Ø        C10           [START TEXT DWG
        JUMP'I        EØLS          [CLEAR AND RETURN


S50:    MD07'I'X      PXY           [SET DXDY FØR NEXT SPØT
        MDAR'I'X      LPTR          [LØAD EØV PIVØT FØR NEXT SPØTS
        ARMD          EØVPV

        MDAR          LS5           [RESTØRE AR

        MDIR          EØVPV         [START NEXT SPØT DWG

        JUMP'I        EØLS          [CLEAR AND RETURN
```

```
OLT:    JUMP        .            [TEXT EOS HANDLER

        ARMD'L                   [SAVE AR
T5:     0

        ARMD'O      DDUN         [SET DWG DONE FLAG

        MDAR        LT5          [RESTORE AR

        JUMP'I      EOLT         [CLEAR AND RETURN



CLH:    JUMP        .            [FRAME CLOCK HANDLER

        ARMD'L                   [SAVE AR,BR
C5:     0
        BRMD'L
C10:    0

C30:    MDAR        TCNT         [GET CLOCK TICK COUNT
        MDAS'F      1            [BUMP IT
        ARMD        TCNT
        JPAN        FC90         [JUMP IF NOT TIME TO REFRESH
        MDAR        $WAIT1       [CHECK NEW LINE WAIT FLAG
        JPAN        FC90         [JUMP IF SET, DONT REFRESH

        MDAR'N      DDUN         [ELSE GET DRAWING DONE FLAG
        JPAN        FC90         [JUMP IF NOT DONE

        JPSR        $TRVCD       [ELSE GO SAMPLE DIALS AND SWITCHES
        MDIC'O'H    C40
        S5BR'F
        MDBR'A      M0015
        MDIC'A'H    M40
        S5AR'F'H
        MDAR'A      C7
        ARLS        12.
        0
        BRAR'F'O
        ARRS        6            [MATCH 9300 WORD LENGTH
        ARMD        FNS          [SAVE SWITCHES
        MDXO        LFNS         [DETECT CHANGES OF STATUS
        MDAR'A      FNS          [SAVE TOGGLE STATUS
        MDXO        $FUNCT       [LATCH STATUS
        ARMD        $FUNCT       [SAVE LATCHED STATUS
        MDAR        FNS          [UPDATE PREVIOUS STATUS
        ARMD        LFNS
```

```
        MDAR'N          $NEWL           [GET NEW LINE FLAG
        JPAN            .+4             [JUMP IF NOT SET
        ARMD            $NEWL           [ESLE RESET IT
        ARMD'O          $WAIT1          [  AND SET WAIT FLAG
        JUMP            FC90            [  AND DONT DISPLAY, DONT RESET EI
                                        [       DWG DONE FLAG OR TICK COUNT

        MDAR            M2              [RESET TICK COUNT
        ARMD            TCNT
        ARXO'F
        ARMD            DDUN            [RESET DRAW DONE FLAG

        MDAR'N          NBUF            [GET NEW BUFFER READY FLAG
        JPAN            FC80            [JUMP IF NOT READY

        ARMD            NBUF            [ELSE RESET NEW BUFFER FLAG

        MDAR'N          LGRP            [AND TOGGLE GROUP SPECIFIER
        ARMD            LGRP
FC80:   JPSR            DISPL           [GO START REFRESH
FC90:   MDAR            FC5             [RESTORE AR,BR
        MDBR            FC10

        JUMP'I          FCLH            [CLEAR AND RETURN




[CONSTANTS

AVGON:  61400VH         [AVG, SCOPE AND CLOCK ON
C0:     0
C1:     1
C10:    10
C40:    40
C7:     7
HINT:   17777           [MAX INTENSITY
M0015:  77777VH
M0429:  3777777777
M1:     -1
M10:    -10
M11:    -11
M1629:  37777
M2:     -2
M40:    -40
M1000:  -1000
C1000:  1000
```

```
[VARIABLES

AUXD:        0                  [NON-AVGD LINE DRAW DESIRED FLAG
CCNT:        0                  [CLOCK TICK COUNT FOR DIALS
DOUN:        0                  [REFRESH DONE FLAG
FNS:         0                  [SWITCH STATUS HOLDER
LFNS:        0                  [PREVIOUS SWITCH STATUS
GEND:        0                  [ADDRESS OF DISPLAY LIST + 1
GRP0:        LOC (.+16.)        [LINE GROUP 0 DISPLAY LIST
GRP1:        LOC (.+16.)        [LINE GROUP 1 DISPLAY LIST
CLINE:
LASTL:       0                  [ID NO. OF LAST LINE RECD
LCNT:        0                  [COUNT OF LINES DRAWN
LGRP:        0                  [CURRENT LINE GROUP IDENTIFIER
LPTR:        0                  [PTR INTO DISPLAY LIST
NADAT:       LOC (.+180.)      [SIDE LINE DISPLAY BUFFER PLUS SPOTS
             1VH                [EOL FOR SIDE LINE WITH SPOTS
BUF:         0                  [NEW BUFFER READY FLAG
DXDY:        0                  [DXDY VALUE FOR NON-AVGD LINE DISPLAY
NLINE:       0                  [NO. OF LINES TO DRAW
SPOT:        0                  [NO. OF SPOTS PER LINE
PXY:         0                  [PTR TO LDXDY TABLE
SCALE:       0                  [PICTURE SCALE FACTOR
SFLG:        0                  [SPOTLITES REQD FLAG
TCNT:        -2                 [TICK COUNT FOR REFRESH PURPOSES
TEMP1:       0
TEMP2:       0
LCTR:        0
TEMP3:       0
SHUT:        0
FRAM:        0

[TEXT DISPLAY BUFFER

DAT1:        P(11,16.,13,102.)              [INPUT TEXT LINE BUFFER
HARS:        LOC(.+19.)
CHAR:        0

DAT:         P(11,16.,13,24.); P(22,37,0,0)            [HEADER

HOUR1: 0;  HOUR2: 0;  100                   [TIME
MIN1:  0;  MIN2:  0;  100
SEC1:  0;  SEC2:  0;  LFCR

1L1: 0;  F1L2: 0;  F1L3: 0;  134            [FREQ 1
1R1: 0;  F1R2: 0;  F1R3: 0; F1R4: 0; LFCR

2L1: 0;  F2L2: 0;  F2L3: 0;  134            [FREQ 2
2R1: 0;  F2R2: 0;  F2R3: 0;  F2R4: 0;  LFCR

3L1: 0;  F3L2: 0;  F3L3: 0;  134            [FREQ 3
3R1: 0;  F3R2: 0;  F3R3: 0;  F3R4: 0;  LFCR
```

```
S1A: 0;  S1B: 0;  LFCR          [SWITCH 1
S2A: 0;  S2B: 0;  LFCR          [SWITCH 2
S3A: 0;  S3B: 0;  LFCR          [  ETC
S4A: 0;  S4B: 0;  LFCR
S5A: 0;  S5B: 0;  LFCR
S6A: 0;  S6B: 0;  LFCR
S7A: 0;  S7B: 0;  LFCR
S8A: 0;  S8B: 0;  LFCR
S9A: 0;  S9B: 0;  LFCR
S10A: 0;  S10B: 0;  LFCR
S11A: 0;  S11B: 0;  LFCR
S12A: 0;  S12B: 0;  LFCR
S13A: 0;  S13B: 0;  LFCR
S14A: 0;  S14B: 0;  LFCR
S15A: 0;  S15B: 0;  LFCR
S16A: 0;  S16B: 0;  LFCR
F1A: 0;  F1B: 0;  LFCR
F2A: 0;  F2B: 0
END1:         0
END2:         P(11,64.,13,64.,1)

VAX:          20000
              1JH 1

TERMINATE
```

```
          VERSION  2  REVISION C  CREATED 31 JAN 75      DATE                P

11.3            FC90        10.25                 S14B        12.16
10.41           FCLH        7.16                  S15A        12.17
10.42           FNS         11.6                  S15B        12.17
10.44           GEND        11.10                 S16A        12.20
10.61           GRP0        11.11                 S16B        12.20
10.43           GRP1        11.12                 S1A         12.1
10.45           HINT        10.47                 S1B         12.1
10.46           HOUR1       11.51                 S2A         12.2
11.44           HOUR2       11.51                 S2B         12.2
11.13           LA20        4.10                  S3A         12.3
11.4            LA30        4.15                  S3B         12.3
11.5            LALX        3.43                  S4A         12.4
2.12            LASTL       11.14                 S4B         12.4
2.37            LCNT        11.15                 S5A         12.5
2.44            LCTR        11.34                 S5B         12.5
3.16            LFNS        11.7                  S6A         12.6
3.33            LGRP        11.16                 S6B         12.6
3.35            LL20        5.14                  S7A         12.7
11.45           LL5         4.55                  S7B         12.7
12.23           LL50        5.26                  S8A         12.10
12.24           LL70        5.54                  S8B         12.10
.52             LPTR        11.17                 S9A         12.11
6.22            LS5         6.25                  S9B         12.11
7.1             LS50        6.56                  SCALE       11.27
.30             LT5         7.4                   SEC1        11.53
12.21           LX5         4.33                  SEC2        11.53
12.21           M0015       10.50                 SFLG        11.30
11.55           M0429       10.51                 TCNT        11.31
11.55           M10         10.53                 TDAT1       11.43
11.55           M1000       10.60                 TDAT        11.47
11.56           M11         10.54                 TEMP1       11.32
11.56           M1629       10.55                 TEMP2       11.33
11.56           M1          10.52                 TEMP3       11.35
11.56           M2          10.56                 VAX         12.26
12.22           M40         10.57
12.22           MIN1        11.52
11.60           MIN2        11.52
11.60           NADAT       11.20
11.60           NBUF        11.22
11.61           NDXDY       11.23
11.61           NFRAM       11.37
11.61           NLINE       11.24
11.61           NSHUT       11.36
11.63           NSPOT       11.25
11.63           PXY         11.26
11.63           S10A        12.12
1.64            S10B        12.12
1.64            S11A        12.13
1.64            S11B        12.13
1.64            S12A        12.14
.23             S12B        12.14
.25             S13A        12.15
.21             S13B        12.15
0.24            S14A        12.16
```

```
[INTSR
[MOD OF AXINT FOR USE WITH WONG'S NEW 9300 PROGRAM

[VERSION 2 , REVISION C
[1/7/75

EXPUNGE
TITLE INTSR
ENTRY AXINZ,AGTEX,RQUSE,AXINT,ROWFW,SDSSV,FINSH,SW0A,SW01,SW02

AXINZ:          JUMP            .
                MDAR'F          SDSSV
                ARMD            77732           [SET UP INTERFACE INTERRUPT PIVOT
                MDAR'L                          [SET COMMUNICATIONS PIVOTS
                33000JH         PVT1
                ARMD            77730
                MDAS'F          1
                ARMD            77731
                OPIO            43120           [IS THIS AGT CONNECTED TO THE INTER
                JUMP            .+2             [NO, DONT RELEASE
                OPIO            43010           [RELEASE INTERFACE
                OPIO            43004           [ENABLE 9300 TO AGT INTERRUPT
                MDIR            AXINZ

[SUBROUTINE TO REINITIALIZE SWO'S AND SWI'S IN BOTH PROCESSORS

AXINT:          JUMP            .
                MDAR            CLR
                ARMD            SW01
                ARXO'F
                ARMD            SW02
                JPSR            ROWFW
                                -0
                                SW0A
                                SW01
                                2
                MDIR            AXINT

 [SUBROUTINE TO SET DIRECTION OF TRANSFER IN INTERFACE

AGTEX:          JUMP            .
                MDAR            TAPE1
                ARMD            PVT1
                MDIR            AGTEX

 [SUBROUTINE TO REQUEST USAGE OF INTERFACE

RQUSE:          JUMP            .
                OPIO            43040
                JUMP            .-1             [WAIT
                OPIO            43120           [CONNECTED
                JUMP            .-1             [NO, WAIT
```

```
VERSIØN  2  REVISIØN C  CREATED 07 JAN 75     DATE                    P
   MDIR'X          RQUSE          [RETURN
```

```
[SUBROUTINE TO READ OR WRITE IN 9300 MEMORY

ROWFW:          JUMP            .                       [ENTRY
                OPIO            43150                   [BUSY OR REQUEST PENDING
                JUMP            .-1                     [YES, WAIT
                FPRI                                    [FREEZE
                ARXO'F                                  [NO, CLEAR PIVOT 1
                ARMD            PVT1
                MDAR'I          ROWFW                   [IS THIS A WRITE TO 9300
                JSLS            AGTEX                   [YES, SET AGT TO EXTERNAL
                MDAR'X'I        ROWFW                   [NO, GET PARAMETERS AND SET PIVOTS
                ARMD            PVT2
                MDAR'I          PVT2
                MDAR'A          AMSK
                MDAR'O          PVT1
                ARMD            PVT1
                MDAR'X'I        ROWFW
                MDAR'X'I'H'O    ROWFW
                ARMD            PVT2
                OPIO            43120                   [CONNECTED
                JPSR            RGUSE                   [NO, REQUEST USAGE
                OPIO            43020                   [YES, CONTINUE USAGE
                UPRI                                    [UNFREEZE
                OPIO            43110                   [BUSY
                JUMP            .-1                     [YES, WAIT
                OPIO            43010                   [RELEASE INTERFACE
                MDIR'X          ROWFW                   [RETURN

[INTERFACE INTERUPT SERVICE ROUTINE

SDSSV:          JUMP            .
                FPRI
                ARMD'L
SAVAR:                          0
                BRMD'L
SAVBR:                          0
                JPSR            ROWFW                   [FILL STATUS WORD OUTPUT BUFFER
                                0
                                SWOA
                                SWO1
                                2
                MDAR            SAVAR
                MDBR            SAVBR
                UPRI
                JUMP'I          SDSSV                   [RETURN
```

```
 [RØUTINE TØ SET 9300 ACCESS BIT

FINSH:      JUMP        •
            MDAR        CLR
            ARMD        SWØ1
            JPSR        RØWFW
                        -0
                        SWØA
                        SWØ1
                        2
            MDIR        FINSH       [RETURN

PIØ=600√H

TAPE1:      200√H
AMSK:       77777
PVT1:       0
PVT2:       0
SWØ1:       0
SWØ2:       0
SWØA:       77776
CLR:        400√H

TERMINATE
```

Earthquake Plotting Program

This program was written on the PDP 11/50 in the C programming language, which is similar to PL/1. C is an excellent language for symbol manipulation and allows the user to specify new data types by using structures. Pointers are an important part of C and can be used to address structure elements as well as for more mundane purposes such as array indexing.

For the purpose of illustration, we will discuss the plotting of spectral data as displayed on the AGT-10 using On-line-ESP. An output tape is produced from ESP which consists of n+1 records for each plot to be processed. The first record contains header information which includes the fact that there are n subsequent records for the plot. Each of the n records contains the x-y coordinates of the transform spectrum for one line as it appeared on the AGT-10. The x values increase in neat steps, but the y values are the amplitudes or squared amplitudes of the Fourier coefficients at a particular frequency and can have a large range of values.

The Versatec can plot 264 bytes in one line and there are 200 lines per inch. It plots from the top of the page to the bottom. In order to draw the picture as it was seen on the AGT-10, the spectra must be plotted point by point from the largest to the smallest y value. The data are first scaled and then sorted in decending order. While the

plot is being made, additional points, resulting from the interpolation between actual data points, are included in the plot buffer. This results in a smoother, more continuous plot.

When all of the data have been plotted, the program plots a set of scale markers along the x-axis. These are appropritately annotated. In this application several frequencies are given along the x-axis. Finally the plot is documented with identifying information and useful data for each event.

The hard-copy capibility we have developed allows the user to make detailed comparisons between the spectral characteristics of earthquakes and explosions. The user is not forced to rely of the remembered appearances of interesting events after they have disappeared from the AGT-10 screen.

I. EQPLOT - Operating Summary

Mount the seven track tape produced by On-Line-ESP on the seven track tape drive of the PDP 11/50. The user has the option to execute the plotting program with an argument, which is the number of pictures to be skipped on the tape. If no argument is given, the plotting will begin with the first data set on the tape. The execution synopsis is:

```
eqplot n
```

where n is the number of plots to be skipped.

```
#define  XINT    320
#define  YINT   8000
#define  DELY   3200
#define  DELX     16
#define  AMPY   8000
#define  NLINE     1
#define  PI        3.141596525
#define  NPT     150
int zero 0;
int one 1;


struct{                            //structure for header
    int npt;
    int line;
    int ldx;
    int ldy;
    int cptr;
    int nspt;
    int spot1;
    int spot2;
    int spot3;
    int hr,min,sec;
    int nft;
    int lag;
    int sr;
    int id[3];
    int lp;
    int scl;
    int mo,day,yr;
    int noise;
    int event;
} head,  *h;

int hbuf[300];
struct  data    {                  //structure for data
    int x;
    int yd;
};

struct data *d;
int dbuf[3000];
int np;
int nip 8;


int idev,pdev,sclx,scly,biasx,tdev;



//main                 main program may be called with one argument
//                     which is the number of pictures to be skipped
//                     on the input tape

main(argc,argv)
int **argv;
{
    int i,j,n;
    char *cs;
    if((tdev = open("/dev/spp",1)) < 0){
```

```
        printf("cannot open spp \n");
        exit();
    }
    if((pdev = open("/dev/rvp",1))<0){              //open the versatec
        printf("cannot open rvp \n");
        exit();
    }
    if((idev = open("/dev/rmt6",0))<0){             //open the tape drive
        printf("cannot open rmt6 \n");
        exit();
    }

    if(argc > 1){                         //skip specified number of pictures
        cs = argv[1];
        n = 0;
        while ( *cs >= '0' && *cs <= '9')
            n = n * 10 + *cs++ - '0';
        n =* 11;
        for ( i=0; i<n; i++)
            inp(idev, dbuf,1200);
        printf ("number of records skipped, %d\n",n);
    }
    while((inp(idev,hbuf,1200))>0){             //input header
        h = hbuf;
        j = 0;
        for(i = 0; i< h -> line; i++){          //input data lines
            n = inp(idev,&gbuf[j], 1200);
            j  =+ 2*(h->npt);
        }

        sclx = 0100; scly = 014;
        biasx=20;
        np = h->npt * h->line;
        scale();
        plot();
        header();
//      cvers(pdev,020);
//  stty(pdev,&one);
    }
}





#define  NBYT   263
#define  NBLK   0
#define  NSL   1250
#define  DRAW       1


struct ipt{
    int      y;
    char     *xpb;
    char     yinc;
    char     xdir;
    int      yf;
    int      cxp;
    int      *flink;
    int      *blink;
```

```
} itab[7*NBYT],*ip,*ia;

char pb[NBYT];


int *dp[1500];



plot()
{

	struct ipt *s;
	int i,j;
	sort();
	for(i = 0; i < NBYT; i++)		//clear plot buffer
		pb[i] = 0;
	for(i = 0; i < NBLK; i++)
		write(pdev,pb,NBYT);		//move to top of plot area
	ip = 0; ia = itab;		//plot scan line
	j = 0;
	for(i = NSL; i > -1; i--){
		while(j < np && *dp[j] == i){
			sip(dp[j]);		//set up plot point for interpolation
			j++;
		}
		nib(i);				//set up plot buffer
		write(pdev,pb,NBYT);//plot line
	}
}


int jsort;

sort()
{
	register i,k,t;

	i=0;
	for(d = dbuf; d < &dbuf[np*2]; d++)
		dp[i++] = &(d -> yg);

	k=np;
	while ( k =>> 1 ){
		jsort++;
		while ( jsort ){
			jsort = 0;
			for ( i=0; i< (np-k); i++)
				if ( *dp[i] < *dp[i+k] ){
					t=dp[i];
					dp[i]=dp[i+k];
					dp[i+k]=t;
					jsort++;
				}
		}
	}

//	}
}
```

```

sip(dpi)
    int *dpi;
{
    int xi,yi,xl,yl,xr,yr,incy,fy,dirx,cx,*s,lcx,inc;
    int i;
    s=dpi;
    lcx = 1;
    yi = *dpi--; xi = *dpi;

    if(++s < &(dbuf[2*np])){
        xr = *s++;
        yr = *s;
        if(yr & DRAW){
            if((inc = yi - yr) >= 0){
                if((incy = inc) == 0)
                    dirx = nip;
                else{
                    for(i = 0; ((incy = (inc/(nip >> i))) == 0); i++);
                    dirx = (1 << i);
                }
                fy = yr;
                cx = 0200;
                lcx = 0;
                stack(yi-incy,incy,fy,xi,dirx,cx);
            }
        }
    }
    if(--dpi >= dbuf){
        if(yi & DRAW){
            yl = *dpi--;
            xl = *dpi;
            if((inc = yi - yl) >= 0){
                if((incy = inc) == 0)
                    dirx = -nip;
                else{
                    for(i =0; ((incy = (inc/(nip >> i))) == 0); i++);
                    dirx = -(1 << i);
                }
                fy = yl;
                cx = lcx;
                stack(yi-incy,incy,fy,xi-1,dirx,cx);
            }
        }
    }
}



stack(a,b,c,dd,e,f)
    int a,b,c,dd,e,f;
{
    int *s;
int i;
struct ipt *z;

    ia -> y = a;
    ia -> yinc = b;
    ia -> yf = c;
    if(dd >= NBYT && dd < 0){
```

```
        printf("bad scale x=%d\n",dd);
        exit();
    }
    ia -> xpb = dd + ph;
    ia -> xdir = e;
    ia -> cxp = f;

    if(ip == 0){
        ip=itab;
        ip->flink=ip->blink=0;
        ia++;
        ia->blink=ip;
        ia->flink=0;
    }
    else{
        s=ia->blink;
        s->flink=ia;
        if(ia->flink == 0){
            s = ia;
            if(++ia >= &itab[7*NBYT]){
                printf("itab overflow \n");
                exit();
            }
            ia->blink=s;
            ia->flink=0;
        }
        else{
            s = ia -> flink;
            s -> blink = ia;
            ia -> flink = 0;
            ia = s;
        }
    }
}


rib(sl)
    int sl;
{
    int i,j,n;
    int *s; s = ip;
    while(s){                           //setup plotting buffer
        if(s -> yf <0)                  //delete point
            if((s=free(s)) == 0)
                return;
        *s -> xpb =s -> cxp;
        if(sl == s -> y){               //line break
            i = ((n = s -> xdir) > 0 ? n : -n);
            if( n < 0 )                     //left
                for(j = 0; j < i; j++){
                    if(s -> cxp == 0){
                        *s -> xph =+ 1;
                        s -> cxp = 1;
                    }
                    *s -> xpb =| (s -> cxp =<< 1);
                }
            else
                for(j = 0; j < i; j++){
                    *s->xph =| (s->cxp =>> 1);
                }
```

```
            s->y =- s->yinc;

        }
        if(sl <= s->yf)                        //end of point
                s->yf = -1;
        s = s->flink;
    }
}


//free                  restore data cells to free list

free(s)
    int *s;
{
    int *t;
int i;
struct ipt *z;
    *s -> xpb = 0;
    if(s->blink == 0){
        ip = s->flink;
        ip->blink = 0;
        t=ip;
    }
    else{
        t = s->blink;
        t->flink = s->flink;
        t = s -> flink;
        if(t == 0){
            s -> flink = ia;
            ia = s;
            return(t);
        }
        t -> blink = s -> blink;
    }
    s->flink = ia;
    s->blink = ia->blink;
    ia = s;
    return(t);
}


//scale                 scale the input data points

scale()
{
    struct data *s;
    int dm,i,j,c,minx,miny;
    int dx[10],dy[10];
    s = dbuf; minx = miny = 077777;
    d=s;
    for(i=0; i<h->line; i++) {
        j=(h->cptr+i)%h->line;
        dx[j]=(h->line-i-1)*(h->ldx);
        dy[j]=(h->line-i-1)*(h->ldy);
    }
    for(i=0; i<h->line; i++) {
        for(j=0; j<h->npt; j++) {
            dm = d->yd & 1;                    //get the draw-move bit
            d->x =+ dx[i];                     //add in the x-bias
```

```
            d->yd =+ dv[i];                 //add in the y-bias
            d->yd =& 0177776;               //mask for draw-move
            d->yd =¦ dm;                    //replace draw-move bit
            d++;
            }
    }
    for(i = 0; i < np; i++){              //find the x and y minima
        minx = ((c = s -> x) < minx? c : minx);
        miny = ((c = s -> yd) < miny? c : miny);
        s++;
    }
    if(minx > 0)
        minx = 0;
    if(miny > 0)
        miny = 0;
    s=dbuf;
    for(i = 0; i < np; i++){
        dm = s -> yd & 1;               //get draw-move bit
        s -> x =- minx;             //bias by minimum x
        s -> yd =- miny;            //bias by minimum y
        s -> x =/ sclx;     //scale
        s ->x =+ biasx;
        if(s->x >= NBYT){
            printf("overflow pb \n");
            exit();
        }
        s -> yd =/ scly;            //scale
        if(s->yd > NSL)
            s->yd = NSL-1;
        s -> yd =& 0177776;         //mask for draw-move
        s -> yd =¦ dm;              //replace draw-move
        s++;
    }
}

inp(idf,buf,nbyte)
    int idf,*buf,nbyte;
{
    int i,t,n,c;
    struct{
        char c1,c2,c3,c4;
    } cf[1200], *s;
    s = cf;
        if((n = read(idf,cf,nbyte)) > 0){
        for(i = 0; i < nbyte/4; i++){
            c = s -> c2 << 2;
            t = c << 10;
            t =¦ s -> c3 << 6;
            t =¦ s -> c4;
            s++;
            buf[i] = t;
        }
    }
}

char *cbp,*loc,t1[132],cb[10];
header()
{
    int i,j,ix,jx,n,m;
    double fn,f100;
```

```
    f100 = 100;
    skip(20);                                           //skip 20 lines

    clr();
    j = h -> cptr * h -> npt*2;
    ix = dbuf[j] ;                        //locate correct line
    jx = dbuf[j + (h -> npt - 1)*2] ;
    i = ix;
    while(i < jx){
        ob[i] = 0200;
        i =+ 20;
    }
    for(i = 0; i < 20; i++)                   //plot scale marker
        write(pdev,pb,NBYT);
    for(i = ix; i < jx; i++)                  //set up scale line
        ob[i] = 0377;
    write(pdev,pb,NBYT);                      //plot scale line
    skip(10);                                 //skip 10 lines
    clr();
    loc = &tl[ix/2];                          //annotation
    i = h -> lp;
    while(i < (h -> lp + h -> npt)){
        fn = f100 * i * h -> sr/h -> nft;
        cbp = cb;
        conv(j = fn/100);
        m = cbp - cb;
        mov(loc, cb, m);
        *(loc + m) = '.';
        cbp = cb;
        conv(j = fn - j*100);
        n = cbp - cb;
        if(n == 1){
            cb[1] = cb[0];
            cb[0] = '0';
        }
        mov(loc + 1 + m, cb, 2);
        loc =+ 10;
        i =+ 20;
    }
//  cvers(pdev,040);
    write(tdev,tl,132);
    skip(25);
    clr();                                    //clear text line
    for(i = 0; i < 2; i++)
        write(tdev,tl,132);
        skip(25);
//  mov(tl + 60, "EVENT : ",8);
//  cbp = cb;
//  conv(h -> event);                         //write event number
//  n = cbp - cb;
//  mov(tl + 68, cb, n);
//  write(tdev,tl,132);
//  clr();
//  mov(tl + 40,"ID : ",5);
//  n = conc(h ->id,cb,2);
//  mov(tl + 45, cb,2);
    mov(tl + 60,"DATE : ",7);
    cbp = co;
    conv(h -> mo);                            //write month
```

```
n = cbp - cb;
m = n + 67;
mov(tl + 67, cb,n);
tl[m] = '/';
m = m + 1;
cbp = cb;
conv(h -> day);                             //write day
n = cbp - cb;
mov(tl + m,cb,n);
m = m + n;
tl[m] = '/';
m = m + 1;
cbp = cb;
conv(h -> yr);                              //write year
n = cbp - cb;
mov(tl + m, cb,n);
mov(tl + 80, "TIME : ", 7);
cbp = cb;
conv(h -> hr);                              //write hour
n = cbp - cb;
mov(tl + 87, cb, n);
m = n + 87;
tl[m] = ':';
m = m + 1;
cbp = cb;
conv(h -> min);                             //write minute
n = cbp - cb;
mov(tl + m, cb,n);
m = m + n;
tl[m] = ':';
m = m + 1;
cbp = cb;
conv(h -> sec);                             //write second
n = cbp - cb;
mov(tl + m, cb,n);
write(tdev,tl,132);
skip(25);
clr();
mov(tl + 40, "SIZE : ",7);
cbp = cb;
conv(h -> nft);                             //write transform length
n = cbp - cb;
mov(tl + 47, cb,n);
mov(tl + 60, "OVERLAP : ", 10);
cbp = cb;
conv(h -> lag);                             //write transform lag
n = cbp - cb;
mov(tl + 70,cb,n);
mov(tl + 80, "SR : ", 5);
cbp = cb;
conv(h -> sr);                              //write sampling rate
n = cbp - cb;
mov(tl + 85, cb, n);
write(tdev,tl,132);
skip(25);
clr();
mov(tl + 40, "SCALE : ", 8);
cbp = cb;
conv(h -> scl);                             //write scale factor
n = cbp - cb;
```

```
    mov(tl + 48, cb, n);
//  mov(tl + 60, "NONOISE : ",10);
//  cbp = cb;
//  conv(h -> noise);                              //write noise factor
//  n = cbp - cb;
//  mov(tl + 70,cb,n);
    write(tdev,tl,132);
    skip(25);
    for(i=0;i<10000;i++);
    skip(300);
//  cvers(pdev,040);
//  stty(pdev,&zero);
}


conv(val)
    int val;

{
    int a;
    if(a = val/10)
        conv(a);
    *chp++ = val % 10 + '0';
}


conc(c1,c2,n)
    char *c2;
    int n,*c1;
{
    int i,m;
    for(i = 0; i < n; i++){
        if(i == 0)
            m = (*c1 & 07700) >> 6;
        else
            m = *c1 & 0077;
        if(m == 012)
            *c2 = '0';
        if(m >= 01 && m <= 011)
            *c2 = '1' + m - 1;
        if(m >= 021 && m <= 031)
            *c2 = 'A' + m - 021;
        if(m >= 041 && m <= 051)
         *c2 = 'J' + m -041;
        if(m >= 062 && m <= 071)
            *c2 = 'S' + m - 062;
    c2++;
    }
    return(i);
}




skip(cnt)

    int cnt;
{
    int i;
    for(i = 0; i < cnt; i++)
```

```
            write(odev,ob,2);
}


clr()
{
        int i;
        for(i = 0; i < 132; i++)
                tl[i] = ' ';
        tl[131] = '\n';
}


mov(to,from,n)

        char *to,*from;
        int n;
{
        int i;
        for(i = 0; i < n; i++)
                *to++ = *from++;
}
```

Bands

BANDS is the program used to find the spectral discriminant between earthquakes and explosions. It is relatively simple to run; however, because the transforms are preformed as part of this program, it can consume large amounts of computer time. The algorithm used is that described in the main section of this report. Results from the band analysis are stored on magnetic tape. By using the subroutine RSLTS, the operator can obtain a listing of the band analysis. The program also allows the user to call NIFTY, our general-purpose tape management subroutine.

The following parameters allow the user full control over the program:

IGM(0,1;0)	a 1-dimensional array with 21 entries. Each entry corresponds to a subarray. When IGM(I) = 1, the subarray is processed.
LFT(?;256)	Length, in points, of the transforms.
LAG(?;32)	Lag, in points, between transforms.
SR(?;10)	Sampling rate of data in points/sec.
FREQ(?)	High and low frequency limits of each band to be processed.
NBANDS(?;6)	Number of bands to be processed.
KNIFTY(0,1;0)	When 1, NIFTY will be called.

IRSLT(0,1;0)	When 1, RSLTS will be called.
MAMP(0,1)	0 - integrate over power of Fourier coefficienteeents 1 - integrate over amplitudes of Fourier coefficients
NONORM(0,1)	0 - normalize with respect to bandwidth 1 - no normalization
NONOISE(?;0)	number of transforms to be averaged into noise spectrum
MGM(13)	maximum number of subarrays
LOOP(1)	total number of events to be processed. Each event may include several subarrays.

```
*     MONITOR FOR BAND PROCESSING
*
*     ALL NAMELIST INPUT IS HANDLED AT THE LEVEL OF THE SUBROUTINES, SO
*     THERE IS NONE APPEARING AT THIS STAGE OF THE PROGRAM
*
      INTEGER OTAPE,XCNT,BNDCTR,SR,SAMPTS
      REAL STOR
      COMMON NGM,NBANDS,FREQ(2,8),LFT,SR,LAG,XCNT,RES,LGCNT,IFILE,NOREC,
     * NONOISE,IFLAG,ISHT,NPT,KILL,ITAPE,ICARD,ISTAR,IAB,LSPEC,BNDCTR,
     * OTAPE,KNIFTY,IRSLT,IDBUF(13),LOOP,LOP,STOR(100,6),NGMCNT,IGM(21),
     * MGM,MAMP,NONORM
*
10    OUTPUT(102) 'READY'
      INPUT(101)
*
      ISTAR = 1
20    IF(KNIFTY .EQ. 1) CALL NIFTY
      KNIFTY = 0
      IF(IRSLT .EQ. 1) CALL RSLTS
      IRSLT = 0
30    CALL BANDS
      IF((KNIFTY .EQ. 1) .OR. (IRSLT .EQ. 1)) ISTAR=1; GO TO 20
      CALL XFORM
      GO TO 30
      END
```

```
      SUBROUTINE BANDS
*
*     THIS PROGRAM FINDS THE ENERGY WITHIN GIVEN FREQUENCY BANDS.
*     AS MANY AS 8 BANDS MAY BE USED
*     TRANSFORM LENGTH IS RESTRICTED TO 1024 POINTS
*     THE TOTAL NUMBER OF TRANSFORMS CAN BE NO MORE THAN 1024 OR THE
*       TOTAL NUMBER OF POINTS CAN BE NO MORE THAN 32K.
*
*
*
************************************************************************
*                                                                      *
*                    DATA DESCRIPTION                                  *
*                                                                      *
*                                                                      *
*                                                                      *
*     IGM      A 1-DIMENSIONAL ARRAY WITH 21 ENTRIES.  WHEN IGM(I) IS   *
*              SET EQUAL TO 1, THE ARRAY IS PROCESSED                  *
*     LFT      LENGTH, IN POINTS, OF TRANSFORM                         *
*     LAG      LAG, IN POINTS, OF TRANSFORM                            *
*     SR       SAMPLING RATE OF INPUT DATA IN POINTS PER SECOND        *
*     FREQ     A I-DIMENSIONAL ARRAY IN WHICH THE HIGH AND LOW FREQUENCY*
*          LIMITS OF EACH BAND ARE ENTERED                             *
*     NBANDS   NUMBER OF FREQUENCY BANDS TO BE PROCESSED               *
*     KNIFTY   DEFAULTS TO 0, WHEN SET TO 1, CONTROL WILL PASS TO THE  *
*          NIFTY MAGNETIC TAPE PACKAGE                                 *
*     IRSLT    DEFAULTS TO  0, WHEN SET TO 1, CONTROL WILL PASS TO THE *
*          SUBROUTINE WHICH PRINTS OUT THE RESULTS                     *
*     MAMP     0 - INTEGRATE OVER POWER OF FOURIER COEFFICIENTS        *
*              1 - INTEGRATE OVER AMPLITUDES OF FOURIER COEFFICIENTS   *
*     NONORM   0 - NORMALIZE INTEGRATION WITH RESPECT TO WIDTH OF BAND *
*              1 - NO NORMALIZATION                                    *
*     NONOISE  DEFAULT IS 0.  THE NUMBER OF TRANSFORMS TO BE AVERAGED  *
*              INTO THE NOISE SPECTRUM                                 *
*     MGM      TOTAL NUMBER OF SEISMOGRAMS FOR THE EVENT               *
*     LOOP     TOTAL NUMBER OF EVENTS TO BE PROCESSED                  *
*                                                                      *
************************************************************************
*
*
      REAL STOR
      REAL FREBUF,KBUF
      INTEGER SAMPTS,XFILE,SR
      INTEGER BNDCTR,OTAPE,XCNT,XFCT
      DIMENSION IBUF(1024),FREBUF(8),KBUF(512),INTSTR(1000)
      DIMENSION BUF(10)
*
      COMMON NGM,NBANDS,FREQ(2,8),LFT,SR,LAG,XCNT,RES,LGCNT,IFILE,NOREC,
     * NONOISE,IFLAG,ISHT,NPT,KILL,ITAPE,ICARD,ISTAR,IAB,LSPEC,BNDCTR,
     * OTAPE,KNIFTY,IRSLT,IDBUF(13),LOOP,LOP,STOR(100,6),NGMCNT,IGM(21),
```

```
     * MGM,MAMP,NØNØRM
*
      NAMELIST LFT,SR,FREQ,NBANDS,KNIFTY,IRSLT,KILL
      NAMELIST IGM,ICARD,MAMP,NØNØRM,LAG,ITAPE,ØTAPE
*
      DATA XFILE/10/,LREC/1024/,NØSFILE/25/
      EQUIVALENCE(SAMPTS,IDBUF(8)),(STØR,INTSTR)
      EQUIVALENCE (IBUF(100),BUF)
      NAMELIST NØNØISE,LØØP,MGM
*
*
*     RECØVER AT THE APPRØPRIATE PLACE IN THIS SUBRØUTINE
*
      GØ TØ (5,10,20,40) ISTAR
*
*     SET UP PARAMETERS
*
5     FREQ(1,1) = 0.4
      FREQ(2,1) = FREQ(1,2) = 0.6
      FREQ(2,2) = FREQ(1,3) = 1.0
      FREQ(2,3) = FREQ(1,4) = 1.4
      FREQ(2,4) = FREQ(1,5) = 2.0
      FREQ(2,5) = FREQ(1,6) = 3.0
      FREQ(2,6)  = 4.5
      LFT = 256
      MGM = 13
      MAMP = 0
      LAG = 32
      LØØP = 1
      SR = 10
      KNIFTY = IRSLT=KILL=0
      ITAPE = 1
      ØTAPE = 2
      ISTAR = 2
      NBANDS = 6
      ICARD = 0
      NØNØISE = 0
      DØ 6 I = 1,21
6     IGM(I) = 0
      IGM(3) = IGM(7) = IGM(8) = IGM(11) = IGM(13) = 1
       DØ 7 I = 1,NBANDS - 1
7     FREQ(1,I+1)=FREQ(1,I+1) + .001
*
10    ØUTPUT(102) 'READY TØ GØ'
      INPUT(101)
      IF(ICARD .EQ. 1) INPUT(5)
      NGM = 0
      DØ 12 I = 1,13
12    NGM = NGM + IGM(I)
      ICARD = 0
```

```
      LØP = 0
20    IF(KNIFTY .EQ. 1) ISTAR = 3; RETURN
13    IF(IRSLT .EQ. 1) ISTAR = 1; RETURN
15    LØP = LØP + 1
      IF(LØP .GT. LØØP) GØ TØ 10
      NGMCNT = 0
17    NGMCNT = NGMCNT + 1
      IF(NGMCNT .GT. MGM) GØ TØ 15
*
      IF(IGM(NGMCNT) .EQ. 0) CALL FØRSCN(ITAPE,1); GØ TØ 17
      CALL INIT
*
30    IF(XFCT .NE. 0) GØ TØ 40
      ISTAR = 4
      RETURN
*
40    CALL BIRTH
      IF(IFLAG .EQ. 777) GØ TØ 100
      CALL INTEGR
      BNDCTR = BNDCTR + 1
*
      DØ 60 IAB = 1,NBANDS
      STØR(BNDCTR,IAB) = FREBUF(IAB)
60    CØNTINUE
      IF(BNDCTR .EQ. 100) GØ TØ 100
*
      GØ TØ 30
*
*     END ØF INPUT DATA, ØUTPUT RESULTS.
*
100   IDBUF(13) = BNDCTR
      CALL READD(NØSFILE,IBUF,LREC)
      CALL INTEGR
      DØ 110 IAB = 1,LREC
110   IBUF(IAB) = 0
      DØ 120 IAB = 1,13
120   IBUF(IAB) = IDBUF(IAB)
      DØ 125 IAB = 1,NBANDS
125   BUF(IAB) = FREBUF(IAB)
      CALL BINØUT(ØTAPE,IBUF,LREC,IND)
      DØ 150 IAB = 1,NBANDS
      DØ 130 K = 1,512
130   KBUF(K) = 0.0
      DØ 140 K = 1,BNDCTR
140   KBUF(K) = STØR(K,IAB)
150   CALL BINØUT(ØTAPE,KBUF,LREC,IND)
      CALL WEØF(ØTAPE,0)
      CALL BAKREC(ITAPE,1)
      CALL FØRSCN(ITAPE,1)
      GØ TØ 17
```

```
*
      SUBRØUTINE BIRTH
*
*     RECØVERY SUBRØUTINE AFTER RETURN FRØM TRANSFØRM
*
      IF(XFCT .NE. 0) GØ TØ 20
*
20    CALL READD(XFILE,IBUF,LREC)
      LGCNT = LGCNT + 1
      MA = XFCT*LSPEC
      DØ 30 II = 1,LSPEC
30    IBUF(II) = IBUF(MA+II)
      XFCT = MØD(XFCT+1,XCNT)
      IF(LGCNT.GE.(SAMPTS-LFT)/LAG) IFLAG = 777
      RETURN
*
*
*
      SUBRØUTINE INTEGR
*
*
*     DØES TRAPEZØIDAL INTEGRATIØN ØVER A GIVEN FREQUENCY BAND.
*     THE ENERGY PER RESØLUTIØN ELEMENT IS FØUND
*
      DØ 10 IAB = 1,NBANDS
      IP1 = FREQ(1,IAB)/RES
      IP2 = FREQ(2,IAB)/RES
      INT1 = IP2-IP1 + 1
      FREBUF(IAB) = 0
      DØ 10 II = 1,INT1
      M = IP1 + II
*      THIS APPEARS TØ BE ØNE PØINT ØFF; HØWEVER, WHEN THE DC CØMPØNENT
*     IS ACCØUNTED FØR, WE START ØN THE CØRRECT FREQUENCY PØINT
      VAL = FLØAT(IBUF(M))**2
      IF(MAMP .EQ. 1) VAL = IBUF(M)
      IF(VAL .LT. 0) VAL = 0
      IF(NØNØRM .EQ. 1) FREBUF(IAB) = FREBUF(IAB) + VAL*RES; GØ TØ 10
      FREBUF(IAB) = VAL*RES/INT1 + FREBUF(IAB)
10    CØNTINUE
      RETURN
*
*
      SUBRØUTINE INIT
*
*     READ IN HEADER RECØRD AND SAVE IT
*
      BNDCTR = 0
      LGCNT = 0
      XFCT = 0
      LSPEC = LFT/2
```

```
      XCNT = LREC/LSPEC
      IFLAG=ISHT=0
      RES=FLØAT(SR)/FLØAT(LFT)
      CALL BININ(ITAPE,IBUF,LREC,IND)
      NØREC = IBUF(1)
      DØ 10 IAB = 1,13
10    IDBUF(IAB) = IBUF(IAB)
      IDBUF(1) = NBANDS
      DØ 20 IAB = 1,512
20    KBUF(IAB) = 0
      DØ 30 IAB = 1,1000
30    INTSTR(IAB) = 0
      IF(((IDBUF(8) -LFT/LAG).GT.100).AND.(NBANDS.GT.6)) ØUTPUT(102) 'TØ
     *Ø BAD'; INPUT(101)
      IF(NØREC .GT. 16) ØUTPUT(102) 'TØØ MANY'; INPUT(101)
      RETURN
*
      END
```

```
      SUBROUTINE RSLTS
*
*     PRINT OUT THE RESULTS OF INTEGRATIONS IN USEABLE FORM
*
*     NAMELIST PARAMETERS:
*
*     LOOP = NUMBER OF OUTPUT FILES TO BE PRINTED OUT
*     RNORM = NUMBER OF FREQUENCY BAND WITH RESPECT TO WHICH THE
*            NORMALIZATION WILL TAKE PLACE FOR A PARTICULAR SPECTRUM
*     NORM = NUMBER OF FREQUENCY BAND WITH RESPECT TO WHICH NORMALIZA-
*            TION OF ALL OF THE SPECTRA WILL TAKE PLACE
*     IRWND = FLAG TO REWIND INPUT TAPE
*
*
      REAL HBUF
      REAL MX
      REAL IBUF,KBUF
      INTEGER TAPE,SR,RNORM,NORM
*
      DIMENSION IBUF(512,8),JBUF(1024),NBUF(20),BUF(512)
      DIMENSION KBUF(6),FBUF(6),HBUF(6),MX(6) ,RBUF(10)
*
      COMMON NGM,NBANDS,FREQ(2,8),LFT,SR,LAG,ISTUP(6),NONOISE
      NAMELIST NGM,LFT,SR,LAG
      NAMELIST MXALL,MXNO,ISUM
      NAMELIST LOOP,RNORM,NORM,ISF,TAPE
      NAMELIST IRWND
      DATA IRWND/0/
      DATA TAPE/2/,ISF/1/,RNORM/2/,NORM/2/
      DATA LREC/1024/
      DATA MXALL/1/,MXNO/1/,ISUM/0/
      EQUIVALENCE (KBUF,NBUF),(JBUF,BUF),(JBUF(100),RBUF)
*
*
10    OUTPUT(102) 'DATA'
      INPUT(101)
      IF(IRWND .NE. 0) CALL RWND(TAPE)
      IF(ISUM .EQ. 0) LOOP = LOOP *NGM
      DO 90 LP=1,LOOP
      IF(ISUM .NE. 0) CALL SUMAR; GO TO 21
15    CALL BININ(TAPE,JBUF,LREC,IND)
*
      NBANDS = JBUF(1)
      IF(NBANDS .GT. 8) OUTPUT(102)'NBANDS'; INPUT(101)
*
      DO 20 I = 1,NBANDS
      CALL BININ(TAPE,IBUF(1,I),LREC,IND)
20    CONTINUE
*
21    WRITE(6,99)
```

```
      WRITE(6,100)    JBUF(1),JBUF(2),JBUF(6),(JBUF(I),I=3,5),
     * (JBUF(I),I=10,12),LFT,LAG,JBUF(9),JBUF(13),NONOISE
*
      WRITE(6,200)((FREQ(I,J),I=1,2),J=1,NBANDS)
      WRITE(6,250) (RBUF(I),I = 1,NBANDS)
      WRITE(6,300)
      ICTR = JCTR = 0
      ICTR = 1
      IFLAG = 1
      IF(MXALL .EQ. 1) MXNO = JBUF(13)
      DO 25 I = 1,6
      MX(I) = 0
      DO 25 K = 1,MXNO
      MX(I) = AMAX(MX(I),IBUF(K,I))
25    CONTINUE
30    DO 51 K = 1,5
      DO 49 I = 1,NBANDS
      IF(ICTR .GT. JBUF(13)) GO TO 80
*
      IF(IBUF(ICTR,RNORM).EQ.0) IBUF(ICTR,RNORM)=0.01
      KBUF(I) = IBUF(ICTR,I)
      FBUF(I) = IBUF(ICTR,I)/IBUF(ICTR,RNORM)*ISF
      HBUF(I) = IBUF(ICTR,I)/MX(NORM)*ISF
49    CONTINUE
      ICTR = ICTR + 1
      WRITE(6,400) (KBUF(I),FBUF(I),HBUF(I),I=1,NBANDS)
51    CONTINUE
      WRITE(6,500)
      JCTR = JCTR + 5
      IF(((IFLAG .EQ. 1) .AND. (JCTR .GE. 40)) .OR. (JCTR .GE. 45))
     * CALL HEADER
      GO TO 30
*
*
80    IF(ISUM .EQ. 0) CALL FORSCN(TAPE,1)
90    CONTINUE
*
99    FORMAT(1H1)
100   FORMAT('NO. BANDS ',I5,3X,'ID. NO. ',I5,3X,'SUBARRAY ',A4,3X,
     * 'MO ',I2,'  DAY ',I2,'  YR ',I2,'   HR ',I2,'  MIN ',I2,'  SEC ',
     * I2/'TRANSFORM LENGTH ',I4,'PTS',3X,'LAG ',I4,'PTS',3X,'SAMPLING
     *RATE ',I4,'PTS/SEC',3X,'NO. XFORMS ',I4,4X,'NONOISE ',I4///)
*
200   FORMAT(6(6X,F4.2,1X,'-',1X,F4.2,5X))
250   FORMAT(6(F14.1,8X))
*
300   FORMAT(6(2X,'VALUE',3X,'RATIO',2X,'NORM',1X))
*
400   FORMAT(6(E8.3,1X,F5.2,1X,F5.3,2X))
*
```

```
500    FØRMAT(' ')
*
       SUBRØUTINE HEADER
       WRITE(6,99)
       WRITE(6,200)   ((FREQ(I,J),I=1,2),J=1,NBANDS)
       WRITE(6,300)
       JCTR = IFLAG = 0
99     FØRMAT(1H1)
200    FØRMAT(6(6X,F4.2,1X,'-',1X,F4.2,5X))
300    FØRMAT(6(2X,'VALUE',3X,'RATIØ',2X,'NØRM',1X))
       RETURN
*
*
       SUBRØUTINE SUMAR
       CALL BININ(TAPE,JBUF,LREC,IND)
       DØ 20 I = 1,20
20     NBUF(I) = JBUF(I)
       NBUF(6) = 60214343B
       NBANDS = NBUF(1)
       DØ 30 I = 1,NBANDS
30     CALL BININ(TAPE,IBUF(1,I),LREC,IND)
       CALL FØRSCN(TAPE,1)
       DØ 40 I = 1,ISUM -1
       CALL BININ(TAPE,JBUF,LREC,IND)
       DØ 35 K = 1,NBANDS
       CALL BININ(TAPE,JBUF,LREC,IND)
       DØ 35 J = 1,512
35     IBUF(J,K) = IBUF(J,K) + BUF(J)
40     CALL FØRSCN(TAPE,1)
       DØ 50 I = 1,NBANDS
       DØ 50 J = 1,512
50     IBUF(J,I) = IBUF(J,I)/ISUM
       DØ 60 J = 1,20
60     JBUF(J) = NBUF(J)
       RETURN
       END
```

Tape Preparation Programs

There are three programs for the preparation of tapes to be used with ESP, DSO, and DXD. They are: READDATA, MERGE, and EVTRD. These programs are part of an overlay package. Below is a description of the purpose and operation of these programs.

I. READDATA

This program was written to read and transcribe the ordinary seismic data tapes provided by Teledyne Geotech. The original format of the tapes is BCD with short records. This is very bulky since large quantities of tape are used merely for end of record gaps. The tapes resulting from READDATA are binary and have the following format:

1. a header record of length 1024 words
2. data records of length 1024. The last data record is padded with zeros.

The header record contains the following information:

WORD	NEMONIC	DESCRIPTION
1	NREC	number of data records to follow header record
2	IDTAPE	tape identification number
3	MO	month
4	DAY	day

5	YR	year
6	ISITE	site identification, for LASA this was the subarray descriptor
7	NCH	number of channels on the data records. Usually this was one channel, but, for a few test tapes, two channels one of which was for timing, were used.
8	LENGTH	total number of sample points
9	SR	sampling rate in samples per second
10	TIME(1)	time in hours
11	TIME(2)	time in minutes
12	TIME(3)	time in seconds

For the data supplied by CDC, the time was the arrival time of the signal. The time given for the data supplied by ACDA was the start time of the data.

Operation

1. mount program tape on MT3A and read into the computer using a rerun deck for MT3A. Type IREAD = 1 * c/r on the control console.

2. mount original Teledyne tape on MT1A and the output tape on MT2A

3. a message will appear on the control console

'DATA IN'

4. input parameters should be specified.

IDATE	mo,day,yr each two digits
IDTAPE	five-digit tape identification number
NARAY	number of subarrays on input tape to be processed

5. on the line-printer the header for each time sequence will be printed out

6. when all of the subarrays have been processed, steps 3, 4, and 5 may be repeated

II. MERGE

To conserve an much magnetic tape as possible, this program allows the user to consolidate the results of several READDATA runs on one tape. It simply copies the input tape verbatum onto an output tape.

Operation

1. mount program tape on MT3A and read into computer using card deck to rerun from MT3A. Type IMERG = 1 * c/r on the control console.

2. mount input tape on MT1A and output tape on MT2A

3. a message will appear on the control console

START

4. input parameters

NARRAY number of subarrays for data set about to be copied

5. upon completing the copy, steps 3 and 4 may be repeated.

III. EVTRD

This program was written to read BCD event tapes from Teledyne. The format of the input and output tapes is the same as that described for tapes used by READDATA.

Operation

1. mount probram tape on MT3A and run using card deck labeled rerun from MT3A. Type IEVNT = 1 * c/r on the control console.

2. mount input and output tapes on MT1A and MT2A respectively

3. the message, TAPE, will appear on the control console. At this point, make sure that the correct input tape is mounted, then type * c/r.

4. the message, DATA IN, will appear on the control console.

5. specify the parameters

IDTAPE, IDATE, NARRAY, and SF

where the first three are the same as those described in READDATA and the last is the scale factor.

6. The program will loop through steps 4 and 5 ten times and then go back to step 3 at which point the input and/or output tapes can be changed.

```
*     MONITOR FOR TAPE PROCESSING
*
*     COMMANDS ARE:
*
*     IREAD = 1      TO READ A TYPICAL DATA TAPE FROM TELEDYNE
*     IMERG = 1      TO MERGE TOGETHER SEVERAL TAPES
*     IEVNT = 1      TO READ AN EVENT TAPE
*
      NAMELIST IREAD,IMERG,IEVNT
      DATA IREAD/0/,IMERG/0/,IEVNT/0/
*
5     OUTPUT(102) 'COMMAND'
      INPUT(101)
      IF(IREAD .NE. 0) CALL READDT; IREAD = 0; GO TO 5
      IF(IMERG .NE. 0) CALL MERGE; IMERG= 0; GO TO 5
      IF(IEVNT .NE. 0) CALL EVTRD; IEVNT = 0; GO TO 5
      GO TO 5
      END
```

```
$MITE  PZE      0
       BRM      9SETUPN
       PZE      2
IDSITE PZE      0
ISITE  PZE      0
      LDA      *IDSITE
       LRSA     014                SHIFT UPPER 12 BITS TO LOWER POF WORD
       LLSA     014
       STA      *ISITE
       BRR      MITE
       END
```

```
      SUBRØUTINE EVTRD
*      SUBRØUTINE TØ READ EVENT TAPE
*
      DIMENSIØN IBUF(1024),JBUF(1200),ARAY1(1040),IARAY2(13,80),
     * ISDAT(3),IDATE(3),RDATA(8),TIME(4),SITE(70),ZERØS(330),
     * ISITE(3),IRY(1040)
      EQUIVALENCE(IRY,IARAY2)
      INTEGER ØTAPE
      NAMELIST SF,ICARD,IDTAPE,IDATE,NARRAY,LSTAPE,IFIN
      DATA SF/100/,ICARD/0/,ØTAPE/2/,ITAPE/1/,LREC/1024/, NARRAY/13/,
     * LSTAPE/0/,JREC/1200/,IFIN/0/
*
      CALL EØFSET(200S)
*
5     ØUTPUT(102) 'TAPE'
      INPUT(101)
      IF(IFIN .NE. 0) RETURN
      DØ 170 NMK = 1,10
      ØUTPUT(102) 'DATA IN'
      INPUT(101)
      IF(ICARD .EQ. 1) INPUT(5)
      ICARD = 0
*
10    READ(1,1000) ISDAT,TIME,SITE,ZERØS
      CALL WRTHED
      IF(NREC*1024 .LT. ISDAT(3)) NREC = NREC + 1
      DØ 60 IJ = 1,NREC
      DØ 20 I = 1,1024
20    IBUF(I) = 0
      DØ 50 J = 1,128
      DØ 30 M = 1,8
30    RDATA(M) = 0.0
      LENCØM = (IJ-1)*LREC+ J*8
      READ(1,3000) (RDATA(K) , K = 1,8)
      DØ 40 L = 1,8
40    IBUF((J-1)*8 + L) = RDATA(L)*SF
      IF(LENCØM .GE. LENGTH) GØ TØ 70
50    CØNTINUE
      CALL BINØUT(ØTAPE,IBUF,LREC,IND)
60    CØNTINUE
      CALL WEØF(ØTAPE,0)
      GØ TØ 80
70    CALL BINØUT(ØTAPE,IBUF,LREC,IND)
      CALL WEØF(ØTAPE,0)
80    CØNTINUE
*
      READ(1,1000) ISDAT,TIME,SITE,ZERØS
      DØ 140 I = 1,13
      DØ 90 J = 1,150
      READ(1,3000) (RDATA(K),K = 1,8)
```

```
      DØ 90 K = 1,8
90    JBUF((J-1)*8 + K) = RDATA(K) *SF
      DØ 100 J = 1,1024
100   IBUF(J) = 0
      CALL WRTHED
      DØ 110 J = 1,1024
110   IBUF(J) = JBUF(J)
      CALL BINØUT(ØTAPE,IBUF,LREC,IND)
      DØ 120 J = 1,1024
120   IBUF(J) = 0
      DØ 130 J = 1,176
130   IBUF(J) = JBUF(1024 + J)
      CALL BINØUT(ØTAPE,IBUF,LREC,IND)
      CALL WEØF(ØTAPE,0)
140   CØNTINUE
170   CØNTINUE
*
200   ØUTPUT(102) 'EØF'
      GØ TØ 5
1000  FØRMAT(3I10,F10.2,2F5.0,F5.1,25X/3(20A4/),10A4,10F4.0/
     * 15(20F4.0/),20F4.0)
3000  FØRMAT(8F10.4)
*
*     WRITE ØUT THE HEADER
*
      SUBRØUTINE WRTHED
*
      NREC = ISDAT(3)/1024
      IF(NREC*1024 .LT. ISDAT(3)) NREC = NREC + 1
      CALL MITE(SITE(1),ISITE)
      IBUF(1) = NREC
      IBUF(2) = IDTAPE
      IBUF(3) = IDATE(1)
      IBUF(4) = IDATE(2)
      IBUF(5) = IDATE(3)
      IBUF(6) = ISDAT(1)
      IBUF(7) = ISDAT(2)
      IBUF(8) = ISDAT(3)
      IBUF(9) = TIME(1)
      IBUF(10) = TIME(2)
      IBUF(11) = TIME(3)
      IBUF(12) = TIME(4)
      WRITE(6,2000) ISDAT,TIME,NREC,SITE(1)
2000  FØRMAT(1X,'SEISMØGRAM NØ. = 'I7,5X,'NCH = ',I10,5X,'SMPLS/CH = ',
     * I10/'RATE',I3,5X,'HR',I3,5X,'MIN',I3,5X,'SEC',I3,5X,'NREC',I3/
     * 'SITE',A2)
      CALL BINØUT(ØTAPE,IBUF,LREC,IND)
      LENGTH = ISDAT(3)
      RETURN
      END
```

```
      SUBROUTINE READDT
*     CONVERT DATA TO INTEGER AND DUMP ON TAPE
*     RECORDS ARE 1024 WORDS LONG - THE FIRST RECORD IS AN IDENTIFIER
*
*
*     ARRANGEMENT OF DATA IN HEADER RECORD
*       1 - NREC - NUMBER OF RECORDS OF DATA TO FOLLOW FOR CURRENT GRAM
*       2- EVENT ID - A 5 DIGIT INTEGER NUMBER
*       3- EVENT DATE   MONTH
*       4- EVENT DATE   DAY
*       5- EVENT DATE   YEAR
*       6- SITE AND GRAM NUMBER IDENTIFIER
*       7- NUMBER OF CHANNELS OF DATA   ONLY ONE IS LEGAL
*       8- LENGTH OF SEISMOGRAM  NUMBER OF SAMPLES PER CHANNEL
*       9- SAMPLING RATE IN SAMPLES PER SECOND
*      10- START TIME OF SEISMOGRAM   HR
*      11- START TIME OF SEISMOGRAM   MIN
*      12- START TIME OF SEISMOGRAM   SEC
*
*
      DIMENSION ISDAT(3)
      DIMENSION IDATE(3), RDATA(8), TIME(4), SITE(70),ZEROS(330),
     *          IBUF(1024)
      INTEGER IDATE,IDTAPE,ISDAT,IRATE,NREC,IBUF,TESTF,ITWO,OTAPE,LREC
      NAMELIST SF,ICARD,IDTAPE,IDATE,NARRAY,LSTAPE,IFIN,IRWND
      DATA SF/1000/, ICARD/0/, OTAPE/2/, LREC/1024/, ITAPE/1/,
     * NARRAY/13/,LSTAPE/0/,IFIN/0/,IRWND/0/
      EQUIVALENCE (IBUF(6),ISDAT)
*
*
      CALL EOFSET(60S)
*
*     READ A SEISMOGRAM AND CONVERT DATA TO INTEGER
*
    5 OUTPUT(102) 'DATA INPUT'
*
*     SUGGESTED INPUT - 5-DIGIT IDTAPE, 3 INTEGER NUMBERS IDATE =
*      MONTH, DAY, YEAR;  NARRAY = NUMBER OF SUBARRAYS; LSTAPE = 1 IF
*      WORKING ON LAST TAPE AND WANT A DOUBLE EOF AT THE END OF THE
*     OUTPUT TAPE
*
      INPUT(101)
      IF(IFIN .NE. 0) RETURN
      IF(ICARD .EQ. 1) INPUT(5)
      ICARD = 0
*
*     READ HEADER ON DATA TAPE
*
      WRITE(6,250)
250    FORMAT(1H1)
```

```
    6 DØ 55 NALL = 1,NARRAY
   10 READ(1,100) ISDAT, TIME, SITE, ZERØS
  100 FØRMAT(3I10,F10.2,2F5.0,F5.1,25X/3(20A4/),10A4,10F4.0/
     *       15(20F4.0/),20F4.0)
      TESTF = 0
      MPTS = (ISDAT(3) - (ISDAT(3)/8)*8)    + ISDAT(3)
      MPTS = MPTS*ISDAT(2)
      NREC = MPTS/1024
      IF(NREC*1024 .LT. MPTS) NREC = NREC + 1
      LENGTH = MPTS
      IBUF(1) = NREC
      IBUF(2) = IDTAPE
      IBUF(3) = IDATE(1)
      IBUF(4) = IDATE(2)
      IBUF(5) = IDATE(3)
      IBUF(9) = TIME(1)
      IBUF(10) = TIME(2)
      IBUF(11) = TIME(3)
      IBUF(12) = TIME(4)
      CALL MITE(SITE(1),ISITE)
      IBUF(6) = ISITE
      CALL  BINØUT(ØTAPE, IBUF, LREC, IND)
      WRITE(6,200)     ISDAT, TIME, NREC, SITE(1)
  200 FØRMAT(1X,'SEISMØGRAM NØ. = ',A4, 5X,'NCH =', I10,5X
     * 'SMPLS/CH =',I10/'RATE',I3,5X,'HR',I3,5X,'MIN',I3,5X,'SEC',I3,
     * 5X,'NREC',I3/'SITE',A2)
*
*     READ DATA
*
      DØ 50 IJ = 1,NREC
      DØ 20 I = 1,1024
   20 IBUF(I) = 0
      DØ 40 J = 1,128
      DØ 25 M = 1,8
   25 RDATA(M) = 0.0
      LENCØM = (IJ-1)*LREC + J*8
      READ(1,300) (RDATA(K),K=1,8)
  300 FØRMAT(8F10.4)
      DØ 30 L = 1,8
   30 IBUF((J-1)*8 + L) = RDATA(L)*SF
      IF(LENCØM .GE. LENGTH) GØ TØ 45
   40 CØNTINUE
      CALL BINØUT(ØTAPE,IBUF,LREC,IND)
   50 CØNTINUE
       CALL WEØF(ØTAPE,0)
      GØ TØ 55
   45 CALL BINØUT(ØTAPE, IBUF, LREC, IND)
       CALL WEØF(ØTAPE,0)
   55 CØNTINUE
      GØ TØ 70
```

```
   60 TESTF = TESTF + 1
      IF(TESTF .GT. 1) GO TO 70
      GO TO 6
70    IF(IRWND .NE. 0) CALL RWND(ITAPE)
      IF(LSTAPE .EQ. 1) CALL WEOF(OTAPE,0)
      GO TO 5
      SUBROUTINE DUMMY
      RETURN
      END
```

```
*     NAMELIST PARAMETERS
*     NARRAY = NUMBER OF ARRAYS TO BE COPIED
*     IFIN = 1      TO GO BACK TO THE MONITOR PROGRAM
*
      SUBROUTINE MERGE
*     PROGRAM TO MERGE EARTHQUAKE READDATA TAPES
*
      INTEGER OTAPE
      DIMENSION IBUF(1024)
      NAMELIST IFLAG,NARRAY,IFIN
      DATA LREC/1024/,NARRAY/13/,ITAPE/1/,OTAPE/2/,IFIN/0/
*
      IFLAG = 0
10    OUTPUT(102) 'START'
      INPUT(101)
      IF(IFIN .NE. 0) RETURN
      DO 50 I = 1,NARRAY
      DO 20 K = 1,1024
20    IBUF(K) = 0
      CALL BININ(ITAPE,IBUF,LREC,IND)
      IF(IND .NE. 0) GO TO 60
      IF(IFLAG .EQ. 1) IBUF(2) = 6; IFLAG = 0
      NOREC = IBUF(1)
      CALL BINOUT(OTAPE,IBUF,LREC,IND)
      DO 40 J = 1,NOREC
      DO 30 K = 1,1024
30    IBUF(K) = 0
      CALL BININ(ITAPE,IBUF,LREC,IND)
      IF(IND .NE. 0) GO TO 60
      CALL BINOUT(OTAPE,IBUF,LREC,IND)
40    CONTINUE
      CALL WEOF(OTAPE,0)
      CALL BININ(ITAPE,IBUF,LREC,IND)
      IF(IND .NE. 0) GO TO 50
      OUTPUT(102) 'NOEOF'
      INPUT(101)
50    CONTINUE
      GO TO 10
60    OUTPUT(102) 'WRONG EOF'
      INPUT(101)
      GO TO 10
      END
```

Appendix B

Spectral Characteristics
# of the
P Codas of Eurasian Earthquakes and Explosions

SPECTRAL CHARACTERISTICS OF THE P CODAS OF EURASIAN EARTHQUAKES AND EXPLOSIONS

J.F. Evernden

Introduction

Over the past decade, numerous analyses of the short-period digitized seismograms recorded at the Large Aperture Seismic Array (LASA) in Montana have been conducted with the intent of ascertaining the discrimination (earthquake versus explosion) capability inherent in those seismograms. The modes of analytical treatment of the data in these several studies varied in some detail but all studies processed the data in an identical manner prior to application of the variable analytical procedures.

LASA originally consisted of 21 small arrays (25 instruments closely grouped within a circle of 7 kilometer radius) distributed in a logarithmic spiral over a circle having a diameter of 200 kilometers. In all studies published to date, the resultant 525 signals were merged into one by, first, direct summing of all seismometers of a subarray ("infinite velocity" sums) and, then, beam-steering of the resultant 21 signals ("time-shift and sum"), striving to thus accentuate on a particular LASA beam the signals from a particular area.

Given this final single trace for signals emanating from a particular area, analyses of various types were conducted:

a. Ratio of energy in first five seconds of seismogram to energy in next 20 seconds ("complexity"), the idea being that signals from explosions would be of shorter duration than those from earthquakes. It was found that, on the average, this was indeed true but that there are earthquakes having the same

complexity ratio as the typical explosion, and vice versa. Therefore, the criterion fails frequently on an event-by-event basis and thus constitutes an unsatisfactory discrimination criterion (Evernden, 1969, for example).

b. More complex treatments of the pattern of energy in the P coda have been published: again seeking to characterize shape of the continuing signal. An improved discrimination capability was achieved but overlap still occurred between earthquake and explosion values.

c. Because of the narrowness of the signal band-pass on the beam-steered LASA sum and because of concentration on energy-related discriminants, efforts to develop a discriminant based on spectral properties of the signals were limited to use of data between 0.5 and 2 Hz. When comparing energy in the band-passes .35 - .85 Hz and 1.45 - 1.95 Hz, general separation (the explosions having the greater high frequency content) was found, but such a discriminant failed to separate extreme values of each event type (Lacoss, 1969). In a recent study, Savino and Archambeau (1974) (details in Archambeau, 1975, and Bache, et.al., 1974) have investigated the discrimination inherent in using low Q (Q = 10) filters centered at 0.5 and 2 Hz applied to normal LASA main beam seismograms and in comparison of the relative amplitudes of the resultant "seismograms". They found that they could achieve discrimination for all but some deep-focus earthquakes.

An important fact that emerged at an early date in studies of LASA data was that the signal-to-noise ratio on the best subarray is invariably about two times greater than that on the main LASA beam, i.e., heterogeneities in earth structures under LASA are causing drastic focusing and de-focusing phenomena. By extensive testing, it was established that all signals detected by computer

processing of the main beams were easily detected by an analyst using visual display of the subarray beams. In addition, the analyst had an essentually zero false alarm rate while the computer had a very high false alarm rate near its "detection" threshold.

Associated with this effect was the observation that it is always impossible to achieve a $\sqrt{n}$ increase in signal-to-noise ratio when steering the array. If a sub-set of adequately separated seismometers are used, a $\sqrt{n}$ suppression of noise can be achieved but this does not result in a $\sqrt{n}$ increase in signal-to-noise. Thus, there is unavoidable degradation in signal amplitude near 1 Hz when trying to steer the entire array, implying even more severe degradation at higher frequencies.

Investigation of the signals from earthquakes as displayed on the main beams indicated there to be very little energy at and above a frequency of 2 Hz. Therefore, the decision was made in early 1969 to decimate the data as collected at the seismometer site (20 samples per record) to 10 samples per second to reduce data transmission and storage problems.

In spite of the phenomena reported above, no published study has investigated the signals as recorded on the subarray beams. The remarkable results to be reported in the next few pages follow upon the simple act of looking at those signals.

Comparison of Full-Beam and Subarray Signals

All seismograms used in this study have been played out in analogue format for detection of clipped signals and data errors ("gliches"). As recorded on infinite-velocity subarray-beams, none of the signals used displayed any clipping. For events with m_b values of about 6 or greater, at least some individual seismometers did display clipping even though the infinite velocity subarray beams did not. Complete recordings of all individual seismometers are not available. The quantitative effect of such clipping of occasional seismometers on the subarray sums is unknowable without detailed knowledge of each seismometer trace. Therefore, the subarray beams of the larger events will be used and analyzed in the same manner as those of the smaller events. Thus, all data for events of $m_b \geq 6$ must be considered as in error at some unknown level. Though the details of spectra may be perturbed from the correct values for the larger events, it is hard to imagine how discrimination criteria could be strongly perturbed. All gliches were removed prior to spectral analysis. All analysis to be reported in this paper is based on Fourier analysis of hammed time-window seismograms. The time-window is 12.8 seconds. Successive time-windows have a 7/8's overlap, i.e., the time-window shifted forward 1.6 seconds for each successive spectrogram (Figure 1 through 4). Only data obtained at 20 samples per second will be investigated as regards discrimination capability in the present study, analysis being limited, therefore, to data acquired prior to early 1969. For this initial paper, the only time-window considered is that containing maximum energy.

Because of a marked contrast in the spectra of normal microseismic noise and signals, the presence of a signal is generally obvious when looking at spectral composition of a time-segment. Thus, Figures 1 through 4 illustrate signal arrival and decay for spectograms from which the mean value of noise at all frequencies has been removed. Each curve on these figures is the Fourier

spectrum, plotted as the square of the Fourier spectral amplitude (A), of successive time-windows as defined above. Figures 1 and 2 are for an earthquake and Figures 3 and 4 for an explosion. The typical contrast in rate of signal decay is obvious, but is not used in the present study. The tendency to higher frequencies in the explosion is also clear. It should be understood that amplitudes on Figures 1 through 4 are not expressive of $(\text{ground motion})^2$ but rather of $(\text{amplitude})^2$ as recorded on the seismogram, the response curve of the seismometer and electronics (Figure 5) causing a marked difference between relative spectral amplitudes in the ground and on the seismogram.

For purposes of quantitative analysis, the spectral data of each event were treated in terms of several spectral windows, all Fourier amplitudes falling in each window being simply added together with no normalization for width of the spectral window. Because of the peak in instrument response at 4-5 Hz (Figure 5) and the lengthening of the spectral windows at higher frequencies, the mode of data presentation adopted accentuates any high frequency

(Ed: Sentence continues on next page)

content of the signal. Corrections to relative ground motion can be made by data provided in the paper and are so done in later portions of the paper.

The spectral windows investigated are (the digitization rate preventing investigation of higher frequencies):

Spectral Window	1	0.4 - 0.6 Hz,
	2	0.6 - 1.0 Hz,
	3	1.0 - 1.4 Hz,
	4	1.4 - 2.0 Hz,
	5	2.0 - 3.0 Hz,
	6	3.0 - 4.5 Hz,
	7	4.5 - 6.0 Hz,
	8	6.0 - 9.0 Hz.

Lower frequencies were not investigated routinely because of high noise amplitudes and steepness of response curve of short period LASA seismometers below 0.5 Hz. Limitation to data below 4.5 Hz in the first stages of analysis here reported is arbitrary and done only when comparing differences in main beam and subarray data.

Table 1 presents comparative spectral data uncorrected for noise level for several large Russian explosions as recorded on the main LASA beams and on the infinite-velocity beam of the F4 subarray, this subarray having the highest signal-to-noise ratio of the available subarray beams for the events studied. The entries in the several r_i columns of this and subsequent tables are ratios of the sum of Fourier spectral amplitude components in each window (1 through 6 in Tables 1 and 2, 1 through 8 in Tables 3 and 4) divided by the sum of spectral amplitude components in window 2 (i.e., $A_{0.6}^{1.0}$). It is apparent that the decorrelation effects that prevent $\sqrt{n}$ gain in signal-to-noise ratio near 1 Hz (see above) cause near elimination of all energy above 2 Hz on the main LASA beam, even reducing mean amplitude in the 1.4 - 2 Hz spectral window by a factor of 2. It is obvious that assertions used as the basis for decimating LASA data as recorded originally, i.e., no signal strength beyond 2 Hz, were in error. As

will be shown in a subsequent section, the signal-to-noise ratio in the 6 - 9 Hz pass-band for Russian explosions of m_b 6.0 as recorded on the F4 subarray is generally approximately 10, suggesting the presence of detectable signal at even higher frequencies.

Table 2 presents similar data for a set of Eurasian earthquakes. The point to be noticed is that there is a detectable increase in relative amplitudes of the high frequency windows for only the largest earthquakes, i.e., only noise is being recorded in these windows for most earthquakes. Inspection of the data of earthquakes alone might give a basis for keeping only 10 samples per second of data, but the data of Russian explosions show clearly the error of doing this. The lack of detectable high frequncy energy in Eurasian earthquakes at LASA must derive from the spectral characteristics of those earthquakes, not from a characteristic of the propagation path to LASA.

Because of the phenomenon displayed in Table 1, all further analysis will use only spectral data from the best subarray available (F1, 2, 3, 4).

A second point requiring emphasis is the impact of using an energy criterion. If the data of either Table 1 or 2 are treated on a direct energy basis (i.e., $\sum(\text{amplitude})^2$ values), it is obvious that any contributuions to such a summation for frequencies of greater than 2 Hz will be undetectable, thus giving another erroneous basis for decimating the LASA data. A criterion based on $\sum(\text{amplitude})$ values combined with a normalization factor for each spectral window seems far more appropriate. Event though amplitudes at higher frequencies are low relative to those between 1 and 2 Hz, the levels measured may be many times noise level and may be extremely important in discrimination.

Discriminant D, Using 0.4 to 9 Hz Data

With the general observations noted above in mind, the spectral composition of the subarray signals of 36 explosions and 23 earthquakes for which we had valid 20 samples per second data (i.e., events earlier than March 1969) were investigated.

Table 3 gives the conventional and spectral data for each event studied. The m_b values for all USSR explosions are carefully intercalibrated by use of data of a fixed network and normalizing to values expected of a network of low amplitude stations (Evernden, 1975). The $A^{1.0}_{.6}$ column is the summation of spectral components in the [.6-1.0] Hz window expressed in arbitrary units, the last two digits being the power of ten by which to multiply the initial three-digit number. Spectral values are as appropriate to the seismogram, not to ground motion. Spectral values in all windows (i.e., r_i entries) are expressed as a ratio to the spectral sum in the [.6 - 1.0] Hz window. Values are corrected for noise level in so far as the limited data available permit (from 10 seconds before to 30 seconds after P arrival). When the observed values appear to be simply noise, the noise value is indicated in parentheses followed by an N.

Table 4 presents average spectral values for groups of Eurasian explosions and shallow-focus earthquakes, the grouping being by amplitudes in the [.6-1.0] Hz window. The mean m_b value for USSR explosions in each group is indicated. The groupings are identical for explosions and earthquakes. The gross contrast in spectral composition of explosions and earthquakes is clearly apparent. Of equal significance is the clear presence of 6-9 Hz energy for all of the larger explosions, the average value of the amplitude sum for the 10 largest explosions of Group A being about 10 times the ambient noise level. It can also be seen in Table 4 that the spectral composition of both explosions and earthquakes is a function of magnitude of the explosions. In a later portion of this paper, these data will be analyzed in terms of source spectra, etc. but, for the moment, discussion is restricted to examination of a simple spectral discriminant using the full band width of data obtained from LASA recordings.

Note in Table 4 that the spectral values for all explosion means is greater at 1.0 - 1.4 Hz than at .6 - 1.0 Hz while being less for earthquakes. On the contrary, explosion means are less at .4 - .6 Hz than are those for earthquakes. Therefore, the following discriminant is examined.

$$D_j = \sum_{i=1}^{8} n_i r_{ij} \qquad i = 1 \text{ to } 8$$

where j designates the event number, i the spectral window with i = 1 for .4 - .6 Hz and 8 for 6 - 9 Hz. The n_i are normalization factors, calculated by taking the ratio of the $\bar{r}_3$ and $\bar{r}_i$ values ($\bar{r}_i$ values being the mean values of Table 4), the appropriate value for each j event being dictated by its $A_{.6}^{1.0}$ value or m_b value. The values of n_1 and n_2 are used as negative numbers, while all others are positive, this usage being intended to accentuate the relative spectral difference of explosions and earthquakes noted above.

Table 5 gives the resultant D value for each event, the events being grouped according to their $A_{.6}^{1.0}$ values. The parentheses following each D value contain two numbers characterizing the number of spectral windows in the (-) and (+) groups with data above noise level.

Table 5A, for the events of Groups A of Table 4 ($A_{.6}^{1.0} > .100 \times 10^5$), shows all Eurasian explosions to have positive D values while all earthquakes have negative D values, the two least negative values being for deep focus earthquakes (D_{108} and D_{113}). There is apparently clear contrast in D values for explosions at Semipalatinsk and Novaya Zemlya. The presumed explosions at 38.8 N 65.1 E and 47.9 N 47.8 E had the lowest D values in Group A.

Table 5 B, for events of Group B of Table 4 with $A^{1.0}_{.6}$ between $.5 \times 10^4$ and 10×10^5 shows similar D values. All shallow focus earthquakes studied to date ive more negative D values than explosions.

Table 5C, for events of Group C of Table 4 with $A^{1.0}_{.6}$ values between $.1 \times 10^4$ nd $.5 \times 10^4$, shows similar results. The presumed explosion at 57.7N 65.3E (D_{17} able 5C) shows a much smaller D value than do most explosions at Semipalatinsk. he single explosion studied at or near 50.1 N 79.0 E(D_{27}) has the lowest D value alculated for USSR explosions.

Tables 5D and E show similar results, an Algerian explosion (D_{158}) giving a D alue of + 1.8.

Therefore, this simple D discriminant achieves strongly negative values for ssentially all earthquakes, even for all except one deep-focus earthquake, and ero (event No. 27) to strongly positive values for all explosions.

Implications So Far

Previous analyses of LASA P coda data have failed to exploit the spectral content of the signals for discrimination purposes because of three major errors: use of the main LASA beam in analysis, use of an energy discriminant without normalization as a function of frequency, and resultant use of data only from .4 to 2.0 Hz. The analysis above shows that a discriminant using data from .4 to 9 Hz with normalization as a function of frequency achieves separation of the set of earthquakes and explosions studied.

It should also be noted that the bandwidth available is adequate to discriminate the largest events, (including deep-focus earthquakes) whereas a bandwidth limited to .6 and 3 Hz cannot achieve such success. Additionally, it is noted that, rather than decimating LASA data in 1969, the digitizing rate should have been increased. A signal-to-noise ratio of 10 at 6 - 9 Hz for m_b 6.0 events suggests presence of measurable energy at even higher frequencies.

For reference, the last line of entries in several $\bar{r}_i$ columns of Table 4 below the earthquakes $\bar{r}_i$ values contains data on the mean noise levels, expressed in the same units as $A^{1.0}_{.6}$, in each spectral window. Though somewhat premature relative to the total discussion it is pointed out here that these values imply a f^{-3} dependency (where f is frequency). This indicates, as will be seen via analysis given later, there to be an f^{-1} dependency of signal/noise ratio for Semipalatinsk signals at 2 - 9 Hz. Thus, a signal/noise ratio of 10 at 6 - 9 Hz suggests detectable energy well above noise level at above 10 Hz.

Generalities on Source Spectra of Explosions and Shallow-Focus Earthquakes

The data base presented in Table 3 is certainly of limited size and the drawing of expansive conclusions from it may seem unwarranted. However, the attempt will be made to illustrate the internal consistency of the data set with both itself and other seismological data, and thus to substantiate general conclusions.

First, note that the m_b values for Soviet explosions and the logarithm of the $A^{1.0}_{.6}$ values (Table 4) are nearly proportional, 1.4 m_b units being associated with a factor of about 35 decrease in mean value of recorded $A^{1.0}_{.6}$ values between events included in Groups A & E. Therefore, the amplitude scaling near 1 second at LASA is, on the average near the m_b network scaling, a not unexpected result.

Next, inspection of the $A^{1.0}_{.6}$ and $\bar{r}_i$ or r_i values of Group B Earthquakes ($.50 \times 10^4 \leq A^{1.0}_{.6} \leq .99 \times 10^4$), Group C Earthquakes ($.10 \times 10^4 \leq A^{1.0}_{.6} \leq .49 \times 10^4$), Earthquake 90 ($A^{1.0}_{.6} = .94 \times 10^3$), and Earthquake 100 ($A^{1.0}_{.6} = .40 \times 10^3$) shows that all of these events appear to have a common spectral composition at high frequencies. This conclusion is independent of mode of reduction of the data to estimates of source spectra, deriving as it does simply from noting that the product ($A^{1.0}_{.6} \times r_i$) is nearly constant for all of those groups of data at the higher frequencies. Figures 6A and 6B, in which the data of all of these events is adjusted in an identical manner, show these relationships. Thus, commonality of the high frequency asymptote for earthquakes below magnitude 5.5 or so is suggested. The larger earthquakes (Group A) have a relative amplitude of $\bar{r}_i$ values for the higher frequencies similar to that for the Group B earthquakes but appear to have higher amplitudes at all frequencies, thus following a parallel but different asymptote than the smaller earthquakes. This difference may be the result of source persistence for large earthquakes, and

the result of analyzing a 12.8 second time window.

In contrast, the explosion data show no tendency for explosions of different sizes to reach the same high frequency asymptote, at least not within the band-width investigated here (Figure 7). In addition, the rate of fall-off of spectral amplitudes with increasing frequency for explosions is far less than for earthquakes.

In any effort to estimate the shape of the source spectra of earthquakes and explosions from the data of Tables 3 and 4, a degree of arbitariness must be included. The factors to be considered are frequency dependent attenuation due to inelastic processes during propagation and loss of high frequencies associated with making the infinite velocity sum for the subarray beam. The former effect is generally assumed to be of the form $e^{-\alpha f}$ where α is independent of frequency; the latter effect is probably more an $f^{-\beta}$ effect. The mode of analysis will be to assume certain attenuation effects with the intent of having reasonable values of attenuation associated with a reasonable source spectrum for earthquakes and explosions.

Interpreted Source Spectra of Earthquakes

Figure 6B illustrates the calculated source spectrum for earthquakes when taking account of widths of each spectral window used and when using $\alpha = .824$ in the attenuation term $e^{-\alpha f}$, and using $\beta = .38$ in the term $f^{-\beta}$. These values are selected by trial and error to yield an f^{-3} high frequency slope for earthquake spectra and to allow for frequency sensitive attenuation in the subarray sum. Comparison of Figures 6A and 6B illustrates the role of the $f^{-\beta}$ term.

The interpreted result is then a source spectrum for earthquakes having an f^{-3} asymptote at high frequencies while flattening at low frequencies, all of which is within

some current models. The implied mean Q for the entire propagation path from Eurasia to LASA is

$$Q \approx \pi(10{,}000)/15(.824) \approx 2500$$

(path length of 10,000 kilometers with average velocity of 15 km/sec). This is an acceptable value.

Therefore, the spectral data of earthquakes of Table 3 and 4 can be processed to yield credible values for attenuation and source spectra.

Interpreted Source Spectra of Explosions

To begin with, consider only the data for the explosions near 50N 48E, (here designated as Semipalatinsk, Site A). Since nearly all explosions studied are from this area, the values for Table 4 will be used as typical of this site.

Semipalatinsk, Site A

The data of Figures 6 and 7 suggest three bases for spectral discrimination between earthquakes and explosions. Firstly, there is an $f^{-1.3}$ greater rate of high frequency attenuation of earthquake spectra relative to those of Semipalatinsk/Site A explosions. Secondly, explosions have a higher corner frequency than do shallow focus earthquakes for the same source spectral level around 1 Hz. Thirdly, the spectral values below the corner frequency decrease with decreasing frequency for explosions. The accentuation of these latter characteristics within the range $.5 \leq f \leq 4$ for small magnitude events explains why failure to detect frequencies higher than 4.5 Hz does not decrease the discrimination capability of the D discriminant at small magnitudes even though higher frequencies are not measurable. The behavior at large magnitudes explains in part why the large Novaya Zemlya explosions have lower D values, i.e., for a pass-band limited to periods of less than 2 seconds, the complete low frequency behavior is not incorporated into the discriminant.

These data suggest that the discrimination between earthquakes and explosions via the D discriminant resides in the contrasting source spectra of these two types of seismic events, not in contrasting attenuation due to systematic differences in location.

Semipalatinsk, Site B

As noted above, all except one of the presumed explosions from the general area around Semipalatinsk are from near 50N 78E, while a single event (Number 27) is a presumed explosion from near 50N 79E, here termed Site B. Though this event is successfully discriminated as an explosion, it had an unusually low D value. Being from a locality so near the other explosions, one cannot appeal to changes in deep crustal or mantle properties to explain the different spectral shape. The differences between the two sites seem more reasonably to be a response to differences in properties of the rocks in which the explosions were implaced or in rocks at very shallow depths. Events No. 27 can be used in support of this hypothesis. Inspection of the data of this event shows the basic difference between the spectra of events from Sites A and B is an apparent nearly f^{-1} greater frequency dependency of the calculated source spectrum for the Site B explosion if interpretation is by the model of Figure 7. However, it would appear probable that the source spectrum of this explosion is fundamentally similar to that of those from Site A and that the calculated f^{-1} greater slope of the data of this event is a response to near-site properties, the only obvious way to get such a drastic effect being in the inelastic zone around the explosion. Whatever the case, it is of interest that multiplication of the r_{ij} values of Event No. 27 by a factor of $e^{.28f}$ to correct them to an f dependency at high frequency similar to that for events from Site A yields adjusted r_{ij} values which, when used in the formula of Table 5, result in calculation of a high positive value for D_{27}.

Such a situation suggests that the low D values of the presumed explosions of Tables 3 and 4 at sites other than near Semipalatinsk and Novaya Zemlya may well be the result in part of explosions in softer rocks than those at Semipalatinsk. In all cases, the low D values of such explosions are associated with spectral decrease with increasing frequency being more exaggerated than that for Site A explosions.

It is suggested that departure from $f^{-1.67}$ dependency of calculated source spectra via the calculational procedures described above implies an additional $e^{-\alpha f}$ dependency from one or more causes beyond that appropriate to Semipalatinsk/Site A. By multiplying data of all spectral windows by the factor required to bring the high frequency data to an $f^{-1.67}$ dependency, one can determine the spectral amplitudes around 1 Hz that would have been observed if any non-Semipalatinsk/Site A explosion had actually been at Site A. In principle, the intercalibration could extend to referring all USSR explosions to NTS via use of data from such a station as NORSAR. Such a potentiality is being evaluated.

Novaya Zemlya Explosions

Though the low D values for the Novaya Zemlya explosions might be expected to arise from the same effects as noted above, investigation of the data of these events by the model of Figure 7 shows them to have a calculated $f^{-1.66}$ dependency at high frequencies, i.e., in agreement with data for explosions from Site A, Semipalatinsk. Therefore, another explanation for the low D values must exist.

Since the large Novaya Zemlya explosions are larger than any Semipalatinsk explosions and since the $\bar{r}_i$ and thus n_i values of Tables 4 and 5 show definite correlation with size of event, it seems relevant to extrapolate the $\bar{r}_i$ values of Table 4 to a higher m_b. Such extrapolation is indicated in Figure 8, where smoothed lines are put through the $\bar{r}_i$ data of Table 4. If one uses the $\bar{r}_i$ values for m_b 6.4 as pertinent to Novaya Zemlya events, D_5 increases from 3.55 to 6.26. All other D values for Novaya Zemlya events of Table 5 increase similarly.

A correlated factor leading to lower D values for these explosions has been noted above, i.e., the fact that the spectral flattening and rolling over typical of explosion

spectra is largely at lower frequency than 0.5 Hz for these events, thus preventing the contrast in low frequency behavior of explosions and earthquakes from entering a criterion limited to frequencies of or greater than 0.5 Hz. Gains of the LASA short period instruments are so uncertain at periods of greater than 2 seconds that no investigation of this point is made at this time.

Further Comments

It was pointed out in Evernden (1975) that assumption of a common high frequency asymptote with slope of f^{-3} for spectra of all earthquakes provided a simple spectral model that agreed with the observed M_s:m_b relationship at all magnitudes. The inverse of that demonstration is that the observed M_s:m_b relationship cannot be explained via an earthquake scaling model which has a common high frequency asymptote with a slope of other than f^{-3}. If extensive documentation of the situation suggested in this paper results, i.e., a common high frequency asymptote for spectra of all earthquakes, the conclusion would be unequivocal that source spectra of earthquakes as calculated via spectral analysis of signals must have a slope at high frequencies of f^{-3}.

Assumption of an f^{-3} high frequency slope for earthquake spectra led to an $f^{-1.67}$ slope for spectra of Semipalatinsk explosions. Arguments given by Brune (1970) show this slope must be $f^{-1.5}$ or greater and studies such as that of Bach, et.al., (1975) derive theoretical values of $f^{-1.5}$ to $f^{-2.3}$ for explosions in various media. Use of an f^{-2} slope for earthquakes would give lower Q values for the mantle and a high frequency spectral slope of f^{-1} or less for Semipalatinsk explosions, an unacceptable value.

Therefore, the multiple constraints, both observational and theoretical, that can be applied to restrict possible spectral models for earthquakes and explosions appear to suggest the models used here. The mantle Q value is reasonable, and any marked change in the slope of the high frequency asymptote for either explosions or earthquakes would lead to apparently unacceptable values for the other.

A Modified D Discriminant and Estimates of Yield

The results presented above suggest that attenuation effects can be approximately evaluated if data to 6 - 9 Hz or greater are available. Also, they suggest use of a modified D discriminant for events whose LASA recordings appear to have higher f dependency than expected of earthquakes. Simply adjust all data of such events so as to have a high frequency dependency similar to that of an earthquake. Calculation of D using the resultant r_{ij} values should yield D values high enough for discrimination.

It may be useful to point out a possible procedure for estimating yields of explosions at uncalibrated test sites. Having proven an event to be an explosion by use of the D discriminant or by M_s:m_b or other criterion, adjustment of all spectral data to yield a high frequency behavior of the "observed" LASA spectra for Site A explosions, or of $f^{-1.67}$ on calculated source spectra, should yield spectral values in the neighborhood of 1 Hz nearly correctly calibrated as to equivalent yield against any reference test site with a known Y vs. m_b relationship.

Final Implications

From the data of Table 4 and 5, it appears that, because of the progressive change in spectral shape of explosions with decreasing magnitude, a D-type discriminant will successfully discriminate earthquakes and explosions to essentially the threshold of network detection and location (i.e., $\geq$ 4 station detection), there being nearly certainly at least two stations at which an accurate D value could be calculated.

These results, if massively substantiated, will make irrelevant the attainment of the capability to detect surface waves of small events, make irrelevant both planned and inadvertent mixing of long period waves as a confusion factor in discrimination, and make irrelevant accurate calculations of depths of focus of earthquakes. In addition, the demonstrated presence of signal at 3 - 4.5 Hz for explosions of m_b 4.1 (Table 3) at epicentral distances of 85° and greater implies a far greater capability to separate closely spaced events than deemed possible in the past and thus to detect multi-shot sequences previously deemed unseparable. In this regard, it is pertinent to remember Archambeau's prediction (1976) that multiple-explosions in scenarios deemed credible by conventional criteria will result in augmented high frequencies, i.e., will look "more like an explosion than an explosion".

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Tables

Table 1 - Spectral Compositions of the Full LASA Beam (BM) and F4 Subarray (F4) Beam for Selected USSR Explosions (Sampling rate = 10 per second). $A_{0.6}^{1.0}$ is sum of Fourier spectral components (ΣA) in spectral window 2, i.e., from 0.6 to 1.0 Hz. r_i is ratio of sum of Fourier spectral components in window i and 2.

Table 2 - Spectral Compositions of the Full LASA Beam (BM) and F4 Subarray (F4) Beam for Selected Eurasian Earthquakes (Sampling rate = 10 per second). $A_{0.6}^{1.0}$ is sum of Fourier spectral components (ΣA) in spectral window 2, i.e., from 0.6 - 1.0 Hz. r_i is ratio of sum of Fourier spectral components in window i and 2. Depth is in kilometers.

Table 3 - Spectral Composition of Subarray Beams of Selected Explosions and Earthquakes (Sampling rate = 20 per second). $A_{0.6}^{1.0}$ is sum of Fourier spectral components (ΣA) in spectral window 2, i.e., from 0.6 - 1.0 Hz. r_i is ratio of sum of Fourier spectral components in window i and 2.

Table 4 - Mean Spectral Composition of Groups of Explosions and Earthquakes of Table 3, Grouping being by Value of $A_{0.6}^{1.0}$. $A_{0.6}^{1.0}$ is sum of Fourier spectral components (ΣA) in spectral window 2, i.e., from 0.6 to 1.0 Hz. r_i is ratio of sum of Fourier spectral components in windows i and 2. No. is number of events in each group.

Table 5 - Value of D Discriminant for Each Event of Table 3.

Figures

Figure 1 - Spectrogram of Earthquake of 6/26/75. Time-window - 12.8 seconds, time step between adjacent spectrograms = 1.6 seconds, vertical scale = A^2 in arbitrary units, where A is amplitude of Fourier component. Noise corrections have been made based on mean values of noise over 30 seconds prior to signal.

Figure 2 - Continuation of spectrograms for Event of Figure 1. Short horizontal arrows on Figure 1 and 2 indicate same time window.

Figure 3 - Spectrograms of Explosion. Time-window = 12.8 seconds, time step between adjacent spectrograms = 1.6 seconds, vertical scale = A^2 in arbitrary units, where A is amplitude of Fourier component. Noise corrections have been made based on mean values of noise over 30 seconds prior to signal.

Figure 4 - Continuation of Spectrograms for Event of Figure 3. Short horizontal arrows on Figure 3 and 4 indicate same time-window.

Figure 5 - Short Period Response Curve - LASA

Figure 6A- Interpreted Source Spectra of Earthquakes: Attenuation Assumed = $e^{.824f}$. B and C indicate spectra of Groups B and C of Table 4. 90, 92, and 100 indicate spectra of events of those numbers in Table 3.

Figure 6B- Interpreted Source Spectra of Earthquakes: Attenuation Assumed = $e^{-.824f}$ x $f^{-.38}$. B, C, 90, 92 and 100 as in Figure 6A.

Figure 7 - Interpreted Source Spectra of Semipalatinsk (Site A Explosions: Attenuation Assumed = $e^{-.824f}$ x $^{-.38}$. A, C, E, indicate spectra of explosions of Groups A, C, and E of Table 4.

Figure ~~Table~~ 8 - $\bar{r}_i$ versus m_b.

Table 1

USSR Explosions

No.	Date YR MO DY	m_b	Array	r_1 (.4-.6)	r_2 (.6-1.0)	r_3 (1.0-1.4)	r_4 (1.4-2)	r_5 (2-3)	r_6 (3-4.5)
1	66 02 13	6.3	BM	.142	1.000	2.023	1.286	.493	.161
			F4	.369	1.000	1.538	2.286	1.721	.507
2	66 03 20	6.2	BM	.105	1.000	1.937	1.365	.388	.067
			F4	.204	1.000	2.047	2.800	1.553	.368
3	66 08 19	4.7	BM	.372	1.000	4.232	2.721	1.241	.270
			F4	.572	1.000	2.989	2.927	3.932	1.365
4	66 10 19	5.6	BM	.089	1.000	2.002	1.649	.630	.032
			F4	.115	1.000	2.151	2.875	2.697	.370
5	66 10 27	6.3	BM	.266	1.000	1.572	.959	.329	.084
			F4	.220	1.000	1.051	1.794	.725	.169
6	66 12 03	4.9	BM	.434	1.000	3.517	3.265	.744	.104(N)
			F4	.680	1.000	4.839	6.183	3.458	.600
7	66 12 18	5.9	BM	.204	1.000	1.860	1.863	.730	.076
			F4	.272	1.000	2.570	3.888	2.370	.507
8	67 02 26	6.0	BM	.197	1.000	1.935	1.203	.713	.736
			F4	.397	1.000	1.800	2.118	1.690	.228
9	67 03 25	5.3	BM	.123	1.000	2.300	.1446	.538	.036(N)
			F4	.257	1.000	2.563	2.636	2.377	.200
10	67 04 20	5.7	BM	.151	1.000	2.488	1.587	.525	.082
			F4	.266	1.000	2.601	2.766	2.506	.500

Table 2

Eurasian Earthquakes

No.	Date YR MO DY	m_b	Array	r_1 (.4-.6)	r_2 (.6-1.0)	r_3 (1.0-1.4)	r_4 (1.4-2)	r_5 (2-3)	r_6 (3-4.5)	Depth
201	72 01 20	4.6	BM	.207	1.000	.922	.123	.090(N)	.081	144
			F4	.200	1.000	.757	.154	.179	.091	
202	72 01 20	6.0	BM	.203	1.000	.965	.605	.054	.020	214
			F3	.056	1.000	1.438	1.569	.187	.132	
206	72 02 22	5.3	BM	.244	1.000	.694	.519	.034(N)	.016(N)	213
			F4	.154	1.000	.956	.790	.081	.022(N)	
207	72 02 26	5.3	BM	.480	1.000	1.170	.443	.064(N)	.029(N)	36
			F1	.295	1.000	1.224	.183	.066(N)	.040(N)	
208	72 03 04	5.1	BM	.191	1.000	1.589	1.302	.415	.122	160
			F4	.216	1.000	2.056	1.935	.869	.169	
209	72 03 17	5.2	BM	.173	1.000	1.263	.409	.184	.113	25
			F4	.144	1.000	1.638	.696	.304	.250	
210	72 03 20	6.0	BM	.286	1.000	1.641	.513	.056	.043	46
			F3	.126	1.000	2.202	.895	.263	.194	
212	72 04 05	5.0	BM	.163	1.000	.930	.302(N)	.133(N)	.082(N)	
			F4	.482	1.000	1.011	.512	.119(N)	.120	

Table 3 Explosions

No.	Epicenter	Origin Time YR MO DY	m_b	Depth	$A^{1.0}_{.6}$	r_1 (.4-.6)	r_2 (.6-1.0)	r_3 (1.0-1.4)	r_4 (1.4-2.0)	r_5 (2-3)	r_6 (3-4.5)	r_7 (4.5-6)	r_8 (6-9)	Subarray
1	49.8N 78.1E	66 02 13	6.1	-	.116 05	.368	1.000	1.806	1.636	1.147	.396	.189	.030	F4
3	49.8N 78.1E	66 08 19	4.3	-	.442 03	(.287)N	1.000	2.379	1.709	2.377	7.51	(.028)N	(.044)N	F4
4	49.8N 78.1E	66 10 19	5.5	-	.640 04	.215	1.000	2.235	1.930	1.700	.231	.093	.022	F4
5	73.4N 54.6E	66 10 27	6.5	-	.205 05	.376	1.000	1.111	1.355	.545	.108	.103	.016	F4
6	49.7N 78.0E	66 12 03	4.4	-	.349 03	(.235)N	1.000	4.019	3.093	1.751	.322	.041	.065	F4
7	49.9N 77.7E	66 12 18	5.7	-	.569 04	.330	1.000	2.581	2.352	1.449	.330	.135	.033	F4
8	49.8N 78.1E	67 02 26	5.9	-	.187 05	.443	1.000	2.030	1.747	1.172	.194	.224	.053	F4
9	49.8N 78.1E	67 03 25	5.1	-	.659 04	.211	1.000	2.038	1.454	1.298	.106	.043	(.006)N	F4
10	49.7N 78.1E	67 04 20	5.4	-	.996 04	.285	1.000	2.396	1.627	1.498	.300	.130	.056	F4
11	49.8N 78.0E	67 05 28	5.2	-	.732 04	.192	1.000	1.939	1.561	1.259	.134	.083	.020	F4
12	49.7N 78.0E	67 06 29	5.1	-	.355 04	.222	1.000	2.058	1.100	.427	.126	.029	.010	F2
13	49.8N 78.1E	67 07 15	5.2	-	.506 04	.193	1.000	2.321	1.977	2.152	.279	.069	.015	F4
14	49.8N 78.0E	67 08 04	5.1	-	.521 04	.179	1.000	2.309	2.023	1.129	.142	.040	(.004)N	F4
15	50.0N 77.7E	67 09 16	5.0	-	.318 04	.447	1.000	2.382	1.767	1.364	.310	.030	(.010)N	F4
16	49.9N 77.7E	67 09 22	4.9	-	.302 04	.246	1.000	2.078	1.711	.956	.251	.037	(.019)N	F4
17	57.7N 65.3E	67 10 06	4.7	-	.108 04	.260	1.000	.810	1.488	.536	.312	(.166)N	(.045)N	F1
18	49.8N 78.0E	67 10 17	5.4	-	.117 05	.194	1.000	2.313	1.337	1.046	.191	.099	.035	F4
19	73.4N 54.8E	67 10 21	5.8	-	.139 05	.387	1.000	1.561	1.848	.433	.299	.090	.015	F4
20	49.8N 78.0E	67 10 30	5.2	-	.663 04	.181	1.000	2.486	1.758	1.134	.223	.093	.027	F4
21	50.0N 77.7E	67 11 22	4.1	-	.470 03	(.666)N	1.000	1.829	1.772	.857	.249	.094	.035	F4
22	49.8N 78.2E	67 12 08	5.1	-	.518 04	.317	1.000	1.902	1.945	2.073	.326	.076	.020	F4
23	49.8N 78.0E	68 01 07	4.7	-	.223 04	(.202)N	1.000	2.496	2.091	1.133	.196	.034	(.012)N	F4
24	49.8N 78.1E	68 04 24	4.6	-	.144 04	(.230)N	1.000	3.209	2.409	2.400	.628	.049	(.016)N	F4

Table 3 (cont.) Explosions (cont.)

No.	Epicenter	Origin Time YR MO DY	m_b	Depth	$A^{1.0}_{.6}$	r_1 (.4-.6)	r_2 (.6-1.0)	r_3 (1.0-1.4)	r_4 (1.4-2.0)	r_5 (2-3)	r_6 (3-4.5)	r_7 (4.5-6)	r_8 (6-9)	Subarray
25	38.8N 65.1E	68 05 21	5.3	-	.112 05	.079	1.000	1.444	.476	.348	.057	(.006)N	(.003)N	F4
26	49.8N 78.1E	68 06 11	5.0	-	.429 04	.254	1.000	2.308	1.809	1.060	.247	.031	(.008)N	F4
27	50.0N 79.1E	68 06 19	5.3	-	.689 04	.454	1.000	1.122	1.531	.914	.092	.026	(.005)N	F4
28	47.9N 47.8E	68 07 01	5.4	-	.136 05	.176	1.000	.916	.710	.485	.137	.017	.005	F4
29	49.8N 78.1E	68 07 12	5.0	-	.396 04	.216	1.000	2.348	1.841	1.892	.403	.057	.016	F4
30	50.0N 78.0E	68 08 20	4.5	-	.107 04	(.125)N	1.000	2.908	2.626	2.128	.475	(.056)N	(.015)N	F4
31	49.8N 78.1E	68 09 29	5.7	-	.157 05	.321	1.000	1.972	1.605	1.213	.145	.180	.050	F4
32	73.4N 54.9E	68 11 07	5.9	-	.199 05	.457	1.000	1.590	1.605	.262	.228	.093	.012	F4
33	49.8N 78.0E	68 11 09	4.3	-	.124 04	.226	1.000	1.968	1.834	1.692	.308	(.045)N	(.018)N	F4
34	49.7N 78.1E	68 12 18	4.9	-	.177 04	.157	1.000	2.253	1.600	.879	.169	.033	(.013)N	F4
35	49.8N 78.1E	69 03 07	5.4	-	.112 05	.238	1.000	1.732	1.355	1.492	.223	.150	.040	F4
157	51.4N 179.2E	65 10 29	6.1	-	.761 04	.195	1.000	3.840	1.722	.325	.446	.097	.030	F4
158	24.1N 5.2E	65 12 01	5.1	-	.756 03	.395	1.000	2.066	3.045	1.249	.092	(.037)N	(.028)N	F4
159	37.1N 116.0W	67 09 27	4.6	-	.964 04	.393	1.000	.225	.074	.060	(.033)N	(.014)N	(.004)N	F4
160	36.7N 107.2W	67 12 10	5.1	-	.710 04	.287	1.000	1.058	.518	1.240	.533	.105	.017	F4
161	37.3N 116.5W	68 04 26	6.3	-	.162 05	.936	1.000	.371	.110	.057	.060	.011	.0005	F4
162	37.1N 116.0W	68 09 06	5.6	-	.342 04	1.123	1.000	3.392	.456	.135	.076	.029	.012	F4
163	37.2N 116.5W	68 12 19	6.3	-	.198 05	.993	1.000	.284	.668	.049	.025	.006	.0005	F4

Table 3 (Cont.) Earthquakes

No.	Epicenter	Origin Time YR MO DY	m_b	Depth	$A^{1.0}_{.6}$	r_1 (.4-.6)	r_2 (.6-1.0)	r_3 (1.0-1.4)	r_4 (1.4-2.0)	r_5 (2-3)	r_6 (3-4.5)	r_7 (4.5-6)	r_8 (6-9)	Subarray
90	51.2N 178.9E	65 10 01	4.8	24	.940 03	.562	1.000	1.433	1.065	(.241)N	(.162)N	(.067)N	(.041)N	F3
92	43.8N 87.7E	65 11 13	6.4	29	.117 05	1.483	1.000	1.292	.489	.396	.075	.021	.005	F4
93	39.3N 73.1E	66 01 28	5.3	41	.347 04	.305	1.000	.802	.154	.077	(.012)N	(.008)N	(.19)N	F4
94	29.8N 69.7E	66 02 07	6.0	10	.205 04	.415	1.000	.913	.373	.229	(.026)N	(.018)N	(.039)N	F4
95	13.9N 146.1E	66 05 20	6.0	69	.575 04	.580	1.000	.297?	.169?	.046?	(.004)N	(.002)N	(.004)N	F4
96	55.0N 165.7E	66 05 20	5.2	35	.442 04	.577	1.000	.574	.206	.195	.051	(.005)N	(.004)N	F4
97	6,4S 131.1E	66 05 25	5.6	57	.744 03	(.567)N	1.000	.825	.773	.626	(.123)N	(.032)N	(.022)N	F4
98	34.0N 77.0E	66 06 04	5.7	215	.397 04	.215	1.000	1.544	1.312	.423	.053	(.005)N	(.005)N	F4
100	43.6N 132.2E	66 06 30	5.4	476	.397 03	.463	1.000	1.527	.972	.402	.264	(.050)N	(.061)N	F4
101	12.6N 144.2E	66 07 07	5.3	46	.987 03	.321	1.000	.603	.217	(.049)N	(.019)N	(.012)N	(.018)N	F4
102	36.4N 141.7E	66 08 19	5.5	28	.346 04	.350	1.000	1.446	(.532)N	(.157)N	(.064)N	(.057)N	(.011)N	F4
103	46.6N 144.1E	66 09 10	5.2	344	.435 04	.248	1.000	.995	1.038	.407	(.080)N	(.012)N	(.006)N	F4
104	45.7N 26.3E	66 10 15	4.8	140	.925 03	.757	1.000	.910	.765	1.011	.065	.022	(.024)N	F4
105	39.2N 21.2E	66 10 29	5.7	20	.111 05	.500	1.000	.541	.204	.066	(.008)N	(.001)N	(.002)N	F4
106	52.4N 173.0E	66 11 08	4.9	31	.282 04	.291	1.000	.590	.649	.407	.157	.011	(.007)N	F4
107	26.9N 125.5E	66 11 09	5.4	45	.166 04	.446	1.000	.861	.240	.056	(.018)N	(.013)N	(.010)N	F4
109	41.8N 144.1E	66 11 12	5.8	32	.798 04	.672	1.000	.330	.221	.049?	(.017)N	(.008)N	(.004)N	F4
110	35.0N 23.5E	66 11 19	5.3	17	.773 04	.149	1.000	.605	.229	.112	.009	(.003)N	(.002)N	F4
111	40.5N 142.7E	66 11 19	4.9	42	.291 04	.551	1.000	1.624	1.214	.212	(.052)N	(.034)N	(.012)N	F4
112	46.7N 152.5E	66 11 21	5.6	60	.143 05	.248	1.000	.856	.193	.087	.024	.004	(.002)N	F4
113	48.2N 146.7E	66 11 22	5.6	443	.275 05	.235	1,000	.777	.214	.194	.051	.012	.003	F4
91	51.3N 174.0E	65 11 11	5.2	45	.111 04	.702	1.000	1.033	.396	.321	.010	(.014)N	).018)N	F3

Table 4

I USSR Explosions

Group	m_b	$A^{1.0}_{.6}$		$\bar{r}_1$	$\bar{r}_2$	$\bar{r}_3$	$\bar{r}_4$	$\bar{r}_5$	$\bar{r}_6$	$\bar{r}_7$	$\bar{r}_8$	No.
A	5.7	.1 - .5	05	.304	1.000	1.649	1.367	.814	.198	.115	.026	(10)
B	5.3	.500 - .499	04	.256	1.000	2.133	1.816	1.461	.216	.079	$\leq$.018	(10)
C	4.8	.100 - .499	04	$\leq$.235(9)	1.000	2.257	1.843	1.315	.311	$\leq$.040(8)	$\leq$.017(2)	(11)
D	-	.500 - .999	03	[.220]	1.000	[2.500]	[2.000]	[1.500]	[.375]	[.040]	[.030]	(1)
E	4.3	.100 - .499	03	.200	1.000	2.742	2.191	1.662	.441	.0543(2)	.0480(2)	(3)

[ ] = interpolated values

II Shallow Focus Earthquakes (D < 100 km)

Group	m_b	$A^{1.0}_{.6}$		$\bar{r}_1$	$\bar{r}_2$	$\bar{r}_3$	$\bar{r}_4$	$\bar{r}_5$	$\bar{r}_6$	$\bar{r}_7$	$\bar{r}_8$	No.
A		.1 - .5	05	.744	1.000	.896	.295	.183	<.036(2)	<.009(2)	<.003(1)	(3)
B		.5 - .999	04	.467	1.000	.411	.206	.069	<.010(1)	<.004(0)	$\leq$.003(0)	(3)
C		.100 - .499	04	.319	1.000	.973	$\leq$.481(6)	.189(5)	<.054(2)	.011(1)	(0)	(7)
D		.500 - .999	03	<.483(2)	1.000	.954	.685	<.305(1)	(0)	(0)	(0)	(3)
E		.100 - .499	03									(0)

III Noise Means

Group	m_b	$A^{1.0}_{.6}$		$\bar{r}_1$	$\bar{r}_2$	$\bar{r}_3$	$\bar{r}_4$	$\bar{r}_5$	$\bar{r}_6$	$\bar{r}_7$	$\bar{r}_8$	No.
								.32 03	.11 03	.041 03	.027 03	

Table 5

A. $A^{1.0}_{.6} \geq .1 \times 10^5$

$$D = -5.424\ r_{1j} - 1.649\ r_{2j} + r_{3j} + 1.206\ r_{4j} + 2.026\ r_{5j} + 8.328\ r_{6j} + 14.34\ r_{7j} + 63.42\ r_{8j}$$

plosions

(2+6) = 10.37

(2+6) = 3.55

(2+6) = 10.66

$_8$ (2+6) = 8.57

$_9$ (2+6) = 5.65

$_5$ (2+6) = 1.12

$_8$ (2+6) = 2.77

$_1$ (2+6) = 9.93

$_2$ (2+6) = 3.92

$_5$ (2+6) = 9.99

Earthquakes

		depth
D_{92} (2+6) =	-5.77	depth = 29 km
D_{105}(2+3) =	-3.44	20
D_{112}(2+5)	-1.47	60
D_{113}(2+6)	-0.71	443

Table 5 (cont.)

B. $.5 \times 10^4 < A_{.6}^{1.0} < .1 \times 10^5$

$$D = -8.332\, r_{1j} - 2.133\, r_{2j} + r_{3j} + 1.176 r_{4j} + 1.460\, r_{5j} + 9.875 r_{6j} + 27.00 r_{7j} + 118.5\, r_{8j}$$

losions

(2+6) = 10.46
(2+6) = 13.39
(2+5) = 3.96
(2+6) = 15.08
(2+6) = 7.81
(2+6) = 10.44
(2+5) = 5.19
(2+6) = 10.48
(2+6) = 10.08
(2+5) = -.05

Earthquakes

D_{95} (2+3) = -6.40 depth = 69 km
D_{109}(2+3) = -7.07 32
D_{110}(2+4) = -2.25 17

Table 5 (cont.)

C. $.1 \times 10^4 < A^{1.0}_{.6} < .5 \times 10^4$

$$D = -9.604r_{1j} - 2.257r_{2j} + r_{3j} + 1.225r_{4j} + 1.716r_{5j} + 7.257r_{6j} + 56.43r_{7j} + 132.8r_{8j}$$

sions	Earthquakes	
+6)= 3.63	D_{93} (2+3) = -4.06	depth = 41 km
+5)= 4.28	D_{94} (2+6) = -5.33	10
+5)= 5.10	D_{96} (2+4) = -6.64	35
+4)= 1.06	D_{93} (2+4) = - .06	215
+5)= 6.15(Using N at r_{1j})	D_{102}(2+1) = -4.17	28
+5)= 13.13(Using N at r_{1j})	D_{103}(2+3) = -1.67	344
+5)= 5.19	D_{106}(2+5) = -1.21	31
+6)= 11.78	D_{107}(2+3) = -5.29	45
+4)= 9.77(Using N at r_{1j})	D_{111}(2+3) = -4.07	42
+4)= 4.93	D_{91} (2+5) = -6.86	45
+5)= 5.05		

Table 5 (cont.)

D. $.5 \times 10^3 < A^{1.0}_{.6} < .1 \times 10^4$

$D = -11.3r_{1j} -2.500r_{2j} +_{3j} +1.250r_{4j} +1.667r_{5j} +6.667r_{6j}$
$+62.50r_{7j} + 83.33r_{8j}$

plosions

$_{58}(2+4) = 1.82$ (Algeria)

Earthquakes

$D_{90}\ (2+2) = -5.88$ depth = 24 km

$D_{97}(1+3) = -5.10$* 57

$D_{101}(2+2) = -5.03$ 46

$D_{104}(2+5) = -5.50$ 140

*Using .5 at r_{1j}

E. $.1 \times 10^3 < A < .5 \times 10^3$

$D = -13.715r_{1j} -2.742r_{2j} +r_{3j} +1.251r_{4j} +1.650r_{5j}$
$+6.667r_{6j} +50.50r_{7j} +57.13r_{8j}$

plosions

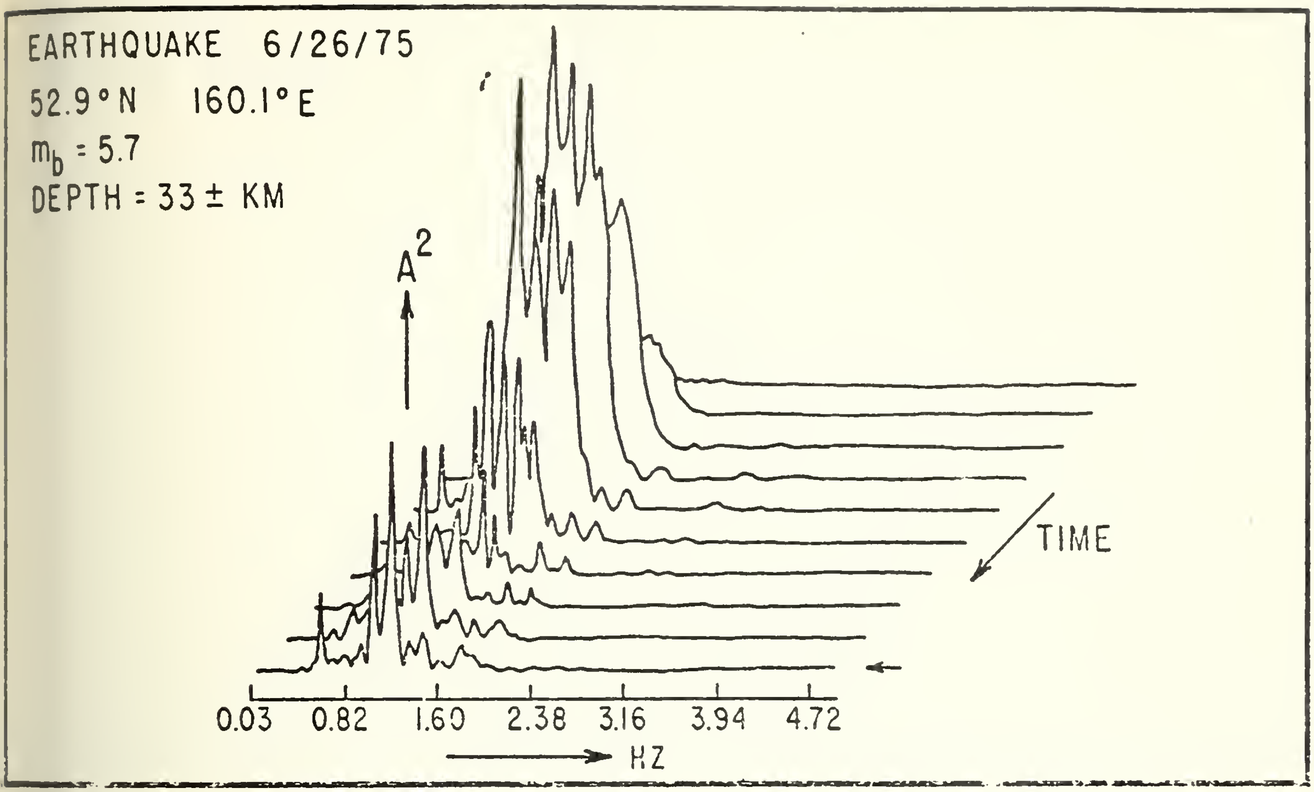
$_3\ (1+4) = 7.25$ (Using N at r_{1j})

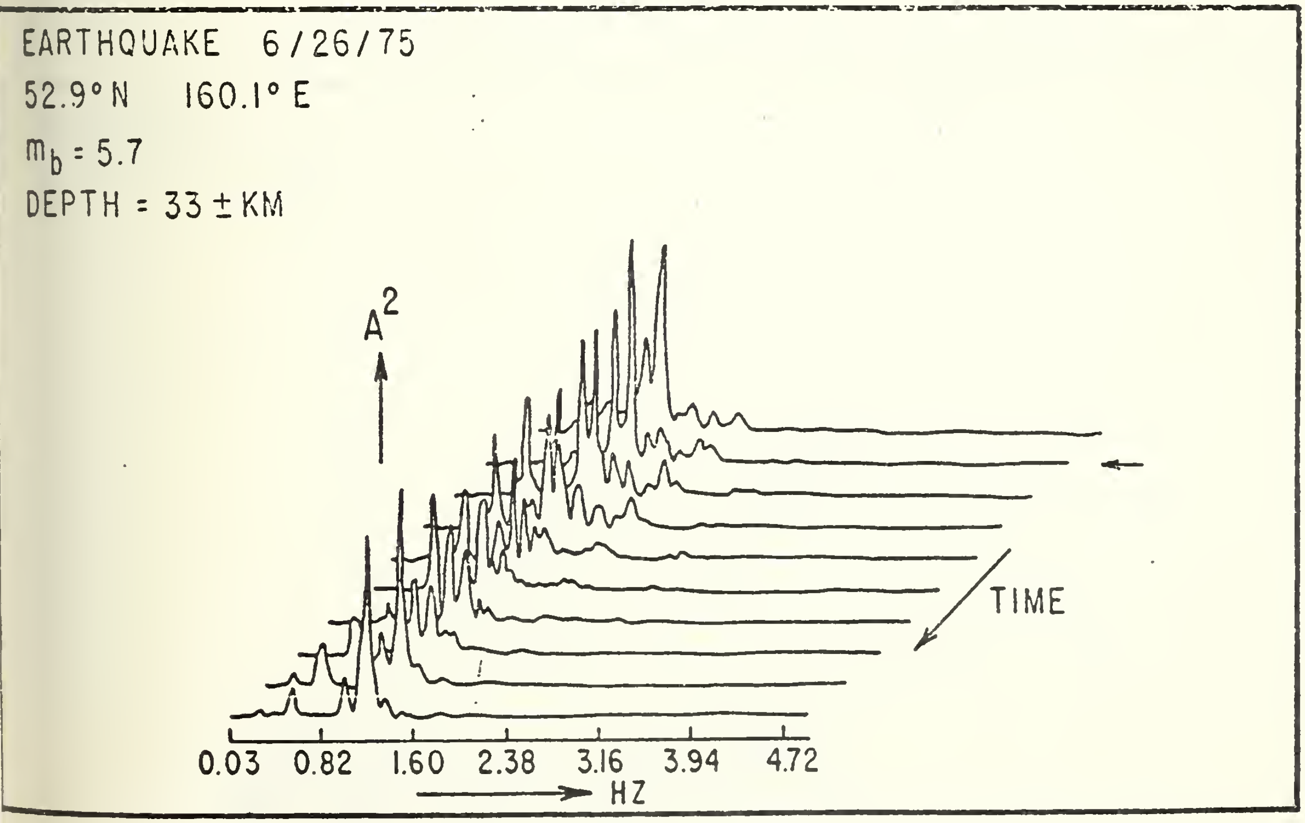
$_5\ (1+6) = 13.23$ (Using N at r_{1j})

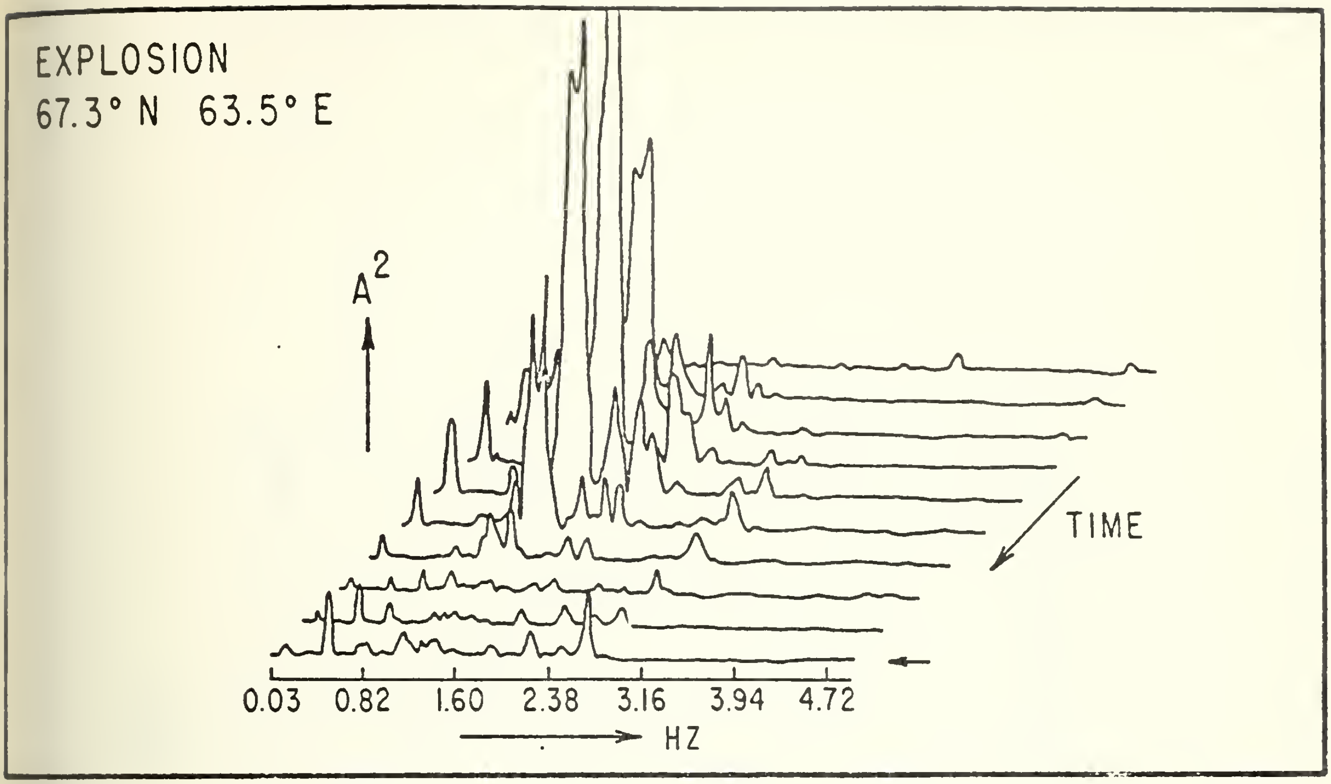
$_{21}(1+6) = 8.18$ (Using $r_{1j} = .25$)

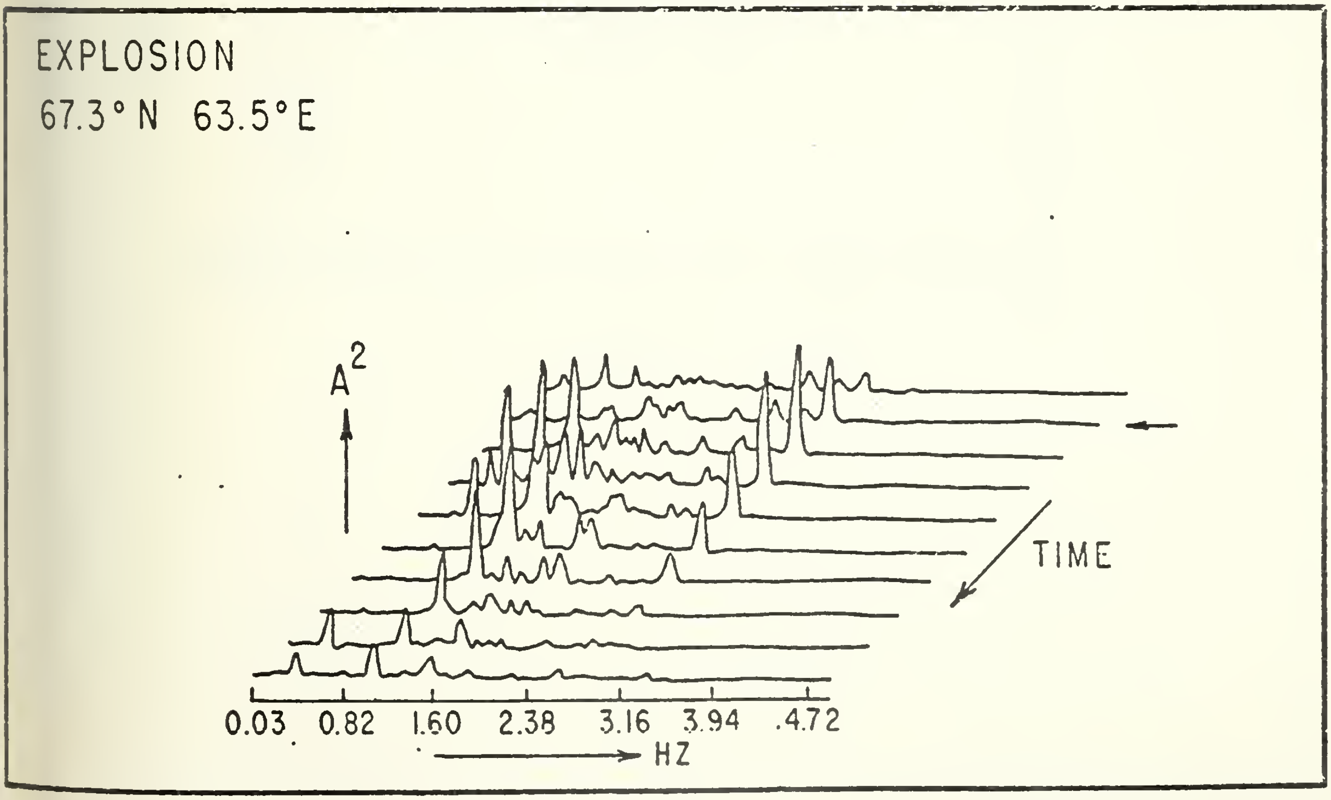
Earthquakes

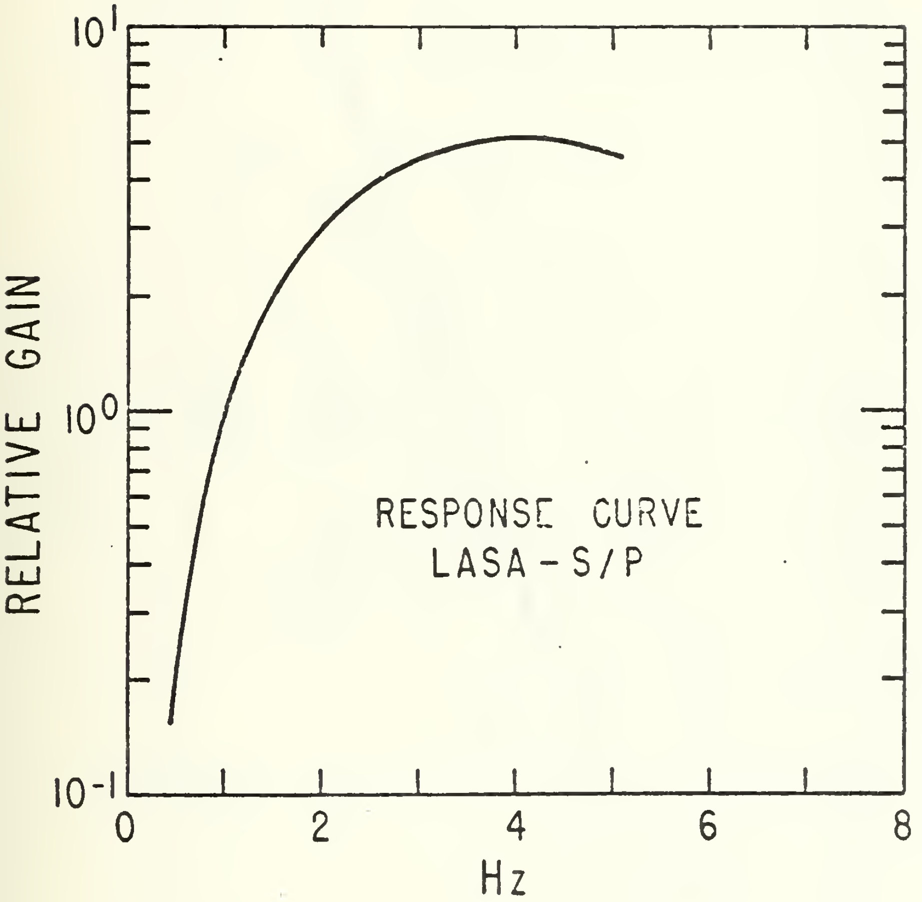
$D_{100}(2+4) = -3.44$ depth = 476 km


EARTHQUAKE 6/26/75
52.9°N 160.1°E
m_b = 5.7
DEPTH = 33 ± KM
A²
TIME
0.03
0.82
1.60
2.38
3.16
3.94
4.72
HZ

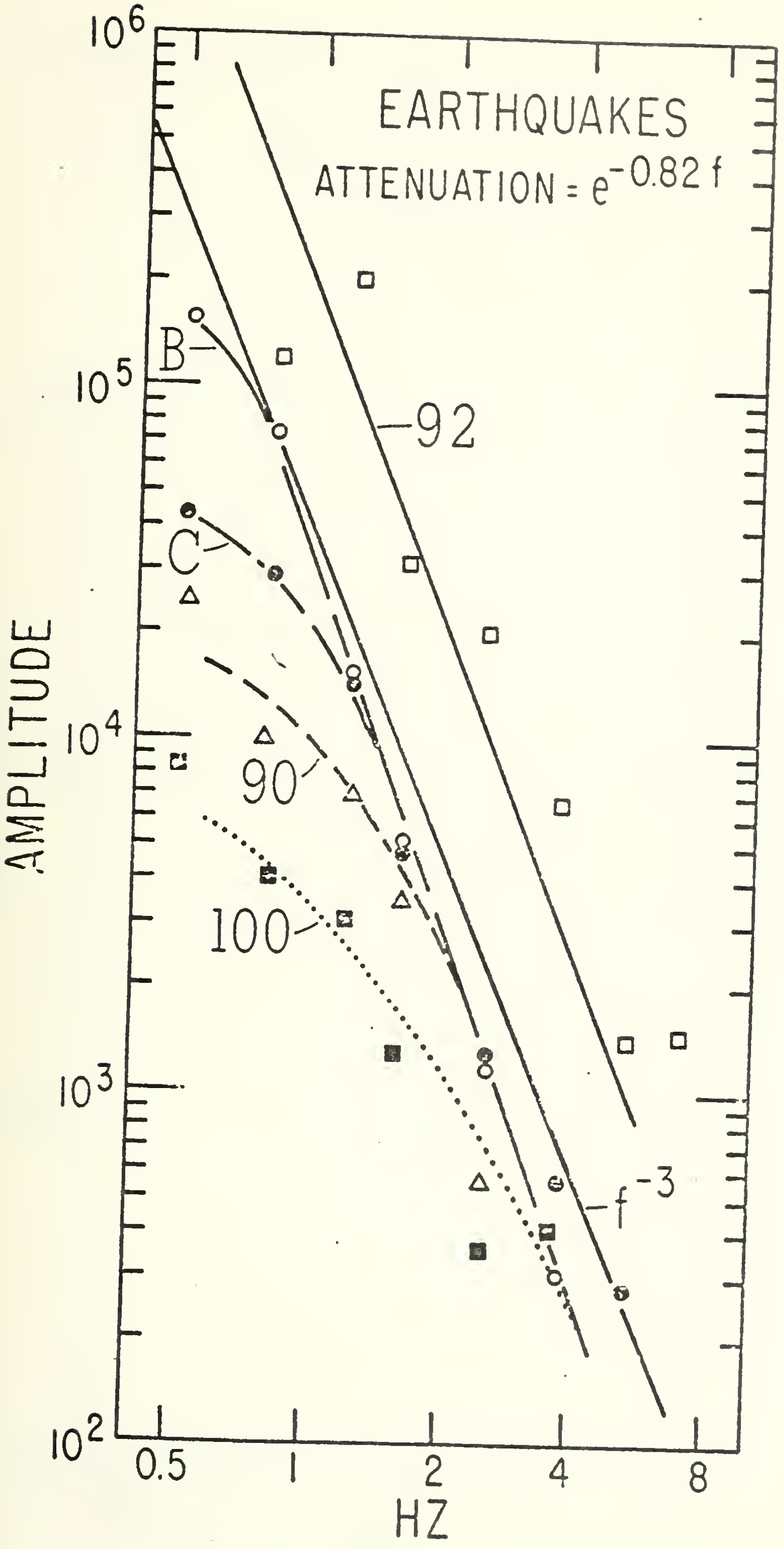

EARTHQUAKE 6/26/75
52.9°N 160.1°E
m_b = 5.7
DEPTH = 33 ± KM
A²
TIME
0.03
0.82
1.60
2.38
3.16
3.94
4.72
HZ

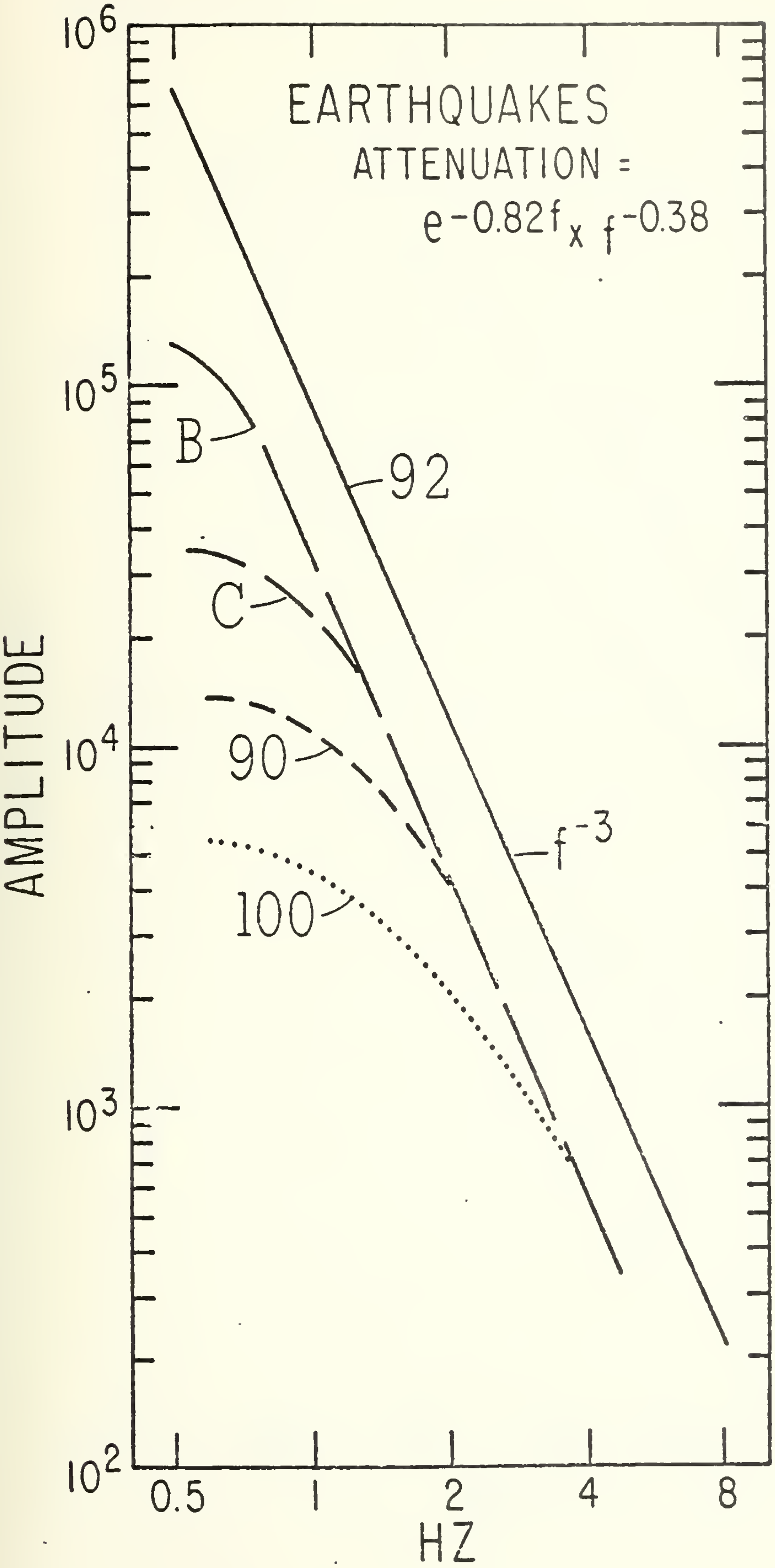

EXPLOSION
67.3° N 63.5° E
A²
TIME
0.03
0.82
1.60
2.38
3.16
3.94
4.72
HZ

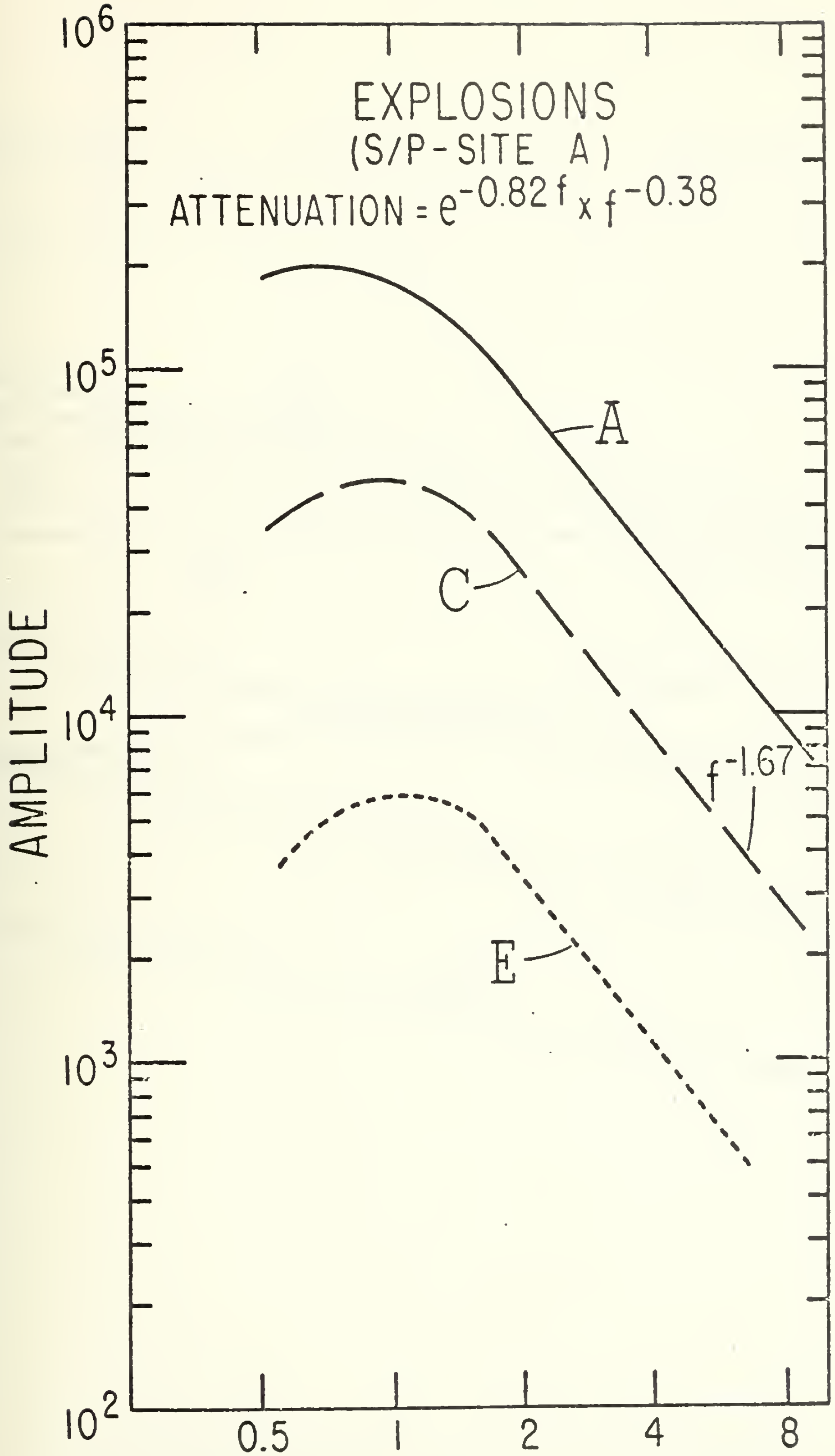

EXPLOSION
67.3° N 63.5° E
A²
TIME
0.03
0.82
1.60
2.38
3.16
3.94
.4.72
HZ



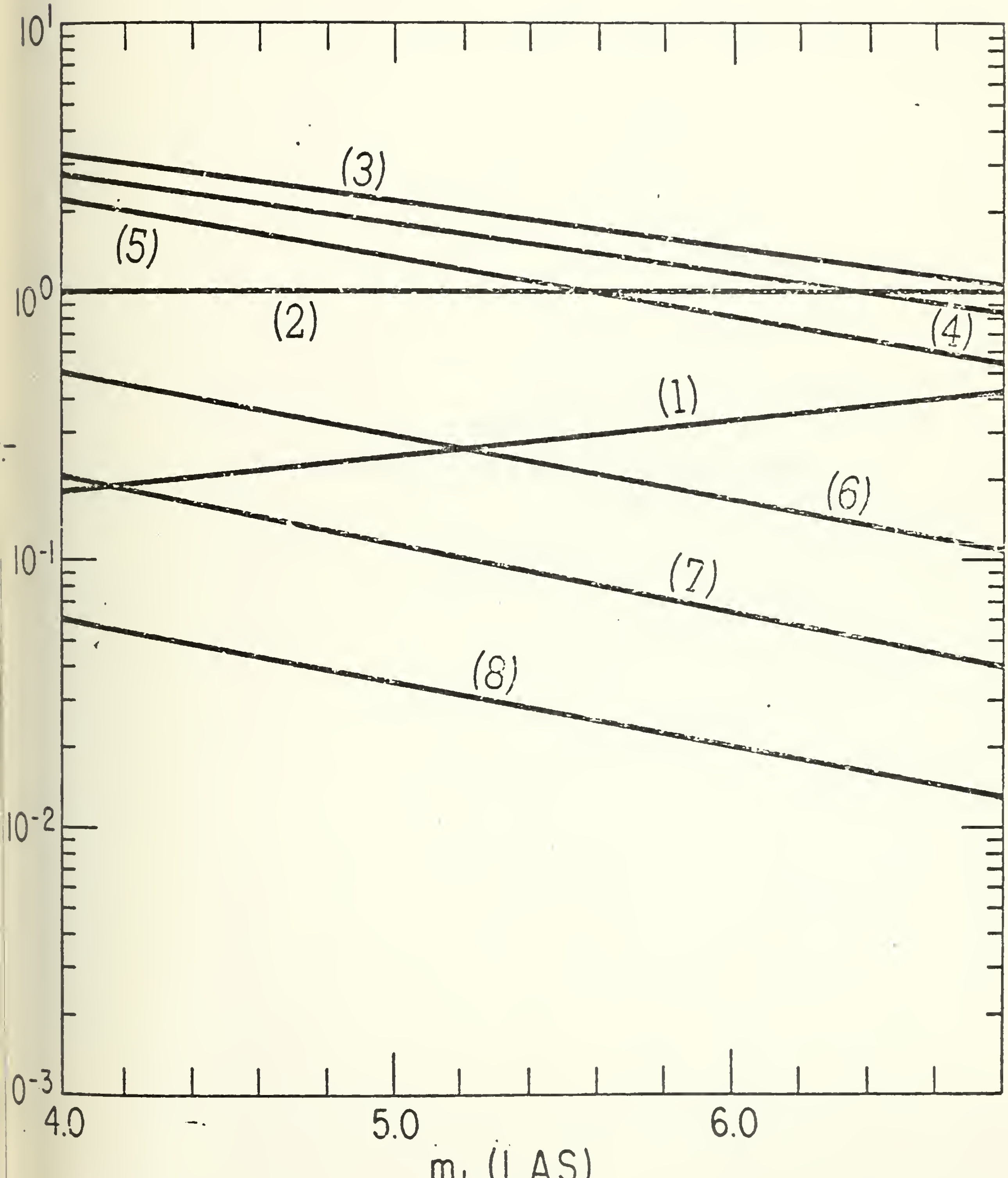
RELATIVE GAIN
10^1
10^0
10^{-1}
0
2
4
6
8
Hz
RESPONSE CURVE
LASA - S/P


EARTHQUAKES
ATTENUATION = e^-0.82 f
AMPLITUDE
HZ
10^6
10^5
10^4
10^3
10^2
0.5
1
2
4
8
B
C
90
100
92
f^-3


EARTHQUAKES
ATTENUATION = $e^{-0.82 f_x} f^{-0.38}$
AMPLITUDE
10^6
10^5
10^4
10^3
10^2
B
C
90
100
92
f^{-3}
0.5
1
2
4
8
HZ


EXPLOSIONS
(S/P-SITE A)
ATTENUATION = $e^{-0.82f} \times f^{-0.38}$
A
C
E
$f^{-1.67}$
AMPLITUDE
10^6
10^5
10^4
10^3
10^2
0.5
1
2
4
8
HZ

SMOOTHED $\overline{r}_i$ VALUES vs. MAGNITUDE (m_b)



Appendix C

Earthquake and Explosion Data Sets

Appendix C

Earthquake and Explosion Data Sets

During the course of this investigation a large quantity of data has been obtained. Because many of these data were acquired with no mean effort, we have compiled them onto several tapes and thus hope to provide others with a more easily accessible data base. We have attempted to format the data in a way that would allow the non-computer expert to use them with ease. There are two data sets: the data supplied by ACDA an the data obtained through Col. Ives and CDC.

ACDA data:

These data are recorded in ascii on 9 track tapes at a density of 800 bpi. Every record is 512 bytes long and eight ascii characters make up one word. None of the tapes contains any computer system dependant records. An end of file mark terminates the data on each tape. For each seismogram the first record is a header record containing the following information:

total number of records of data to follow

event identification number

date - month

date - day

date - year

site identification (alpha-numeric)

number of channels of data

total number of data points on seismogram

sampling rate in samples per second

time of first data point - hours

time of first data point - minutes

time of first data point - seconds.

The subsequent records contain the data. Each integer data point is recorded as 8 ascii characters and may have leading blanks and a minus sign.

These data have been divided into two sets: type A data or earthquakes and type B data, which are explosions. In the following pages the headers for all of these data are listed.

CDC data

These data are recorded in ascii on 9 track tapes at a density of 800 bpi. Each record is 1920 bytes long. For each seismogram there is a header the format of which is described in Table 1. The header does not constitute a separate record. Subsequent information is the 1200 data points which are in 8 character ascii format. Again, each data point may contain leading blanks and an optional minus sign. An end of file mark terminates the data on each tape. A listing of the headers for all of the seismograms in this data set is included as part of this report.

The user should take care to apply the appropriate sampling rates to these data. Data recored prior to 15 April 1969 were sampled at 20 Hz and data obtained

subsequent to that data were sampled at 10 Hz.

TABLE 1

Description of CDC Data Format

Each record of 1920 bytes is subdivided into 20 segments containing 96 characters. There are five types of segments.

Type 1 - Header

Description	Format	Byte
Record number	I3	1-3
Event number	I6	4-9
Space	1x	10
Channel type	A2	11-12
Year	I3	13-15
Month	I3	16-18
Day	I3	19-21
Julian Date	I8	22-29
Latitude	F5.1	30-34
Space	1x	35
Latitude direction	A1	36
Longitude	F6.1	37-42
Space	1x	43
Longitude direction	A1	44
Seismic Region number	I3	45-47
Geographic Region number	I4	48-51
Depth	F4.0	52-55
Depth	I4	56-59
Distance in degrees	F7.1	60-66

Azimuth	F8.1	67-74
Arrival time - hour	I3	75-77
Arrival time - minute	I3	78-80
Arrival time - second	F5.1	81-85
Origin time - hour	I3	86-88
Origin time - minute	I3	89-91
Origin time - second	F5.1	92-96

Type 2 - Description Format - 6A10

Description	Byte
Event number	1-6
Channel type	8-9
Date	14-21
Julian date	25-31
Latitude	35-40
Longitude	44-50
Magnitude	54-56

Type 3 - Description

Format - 6A10

Description	Byte
Depth	1-3
Distance	7-11
Azimuth	15-20
Arrival time	24-33
Origin time	37-46
Designator	50-59

Type 4 - Description

Format - 7A10,A2

Description	Byte
Seismic region number	1-2
Seismic name	4-35
Geographic region number	37-39
Geographic name	41-72

Type 5 - Data

Format - 12I8

This segment is repeated 100 times to write 1200 data points.

Headers for ACDA Data - Earthquakes

```
    NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
      47        71          6         29        75         A0          1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          2         18        37

    NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
      47        71          6         29        75         B1          1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          2         18        37

    NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
      47        71          6         29        75         B2          1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          2         18        37

    NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
      47        71          6         29        75         B3          1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          2         18        37

    NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
      47        71          6         29        75         B4          1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          2         18        37

    NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
      47        71          6         29        75         C1          1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          2         18        37

    NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
      47        71          6         29        75         C2          1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          2         18        37

    NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
      47        71          6         29        75         C3          1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          2         18        37

    NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
      47        71          6         29        75         C4          1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          2         18        37

    NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
      47        71          6         29        75         D1          1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          2         18        37

    NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
      47        71          6         29        75         D2          1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          2         18        37

    NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
      47        71          6         29        75         D3          1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          2         18        37
```

```
     NREC       ID      MONTH        DAY       YEAR       SITE     NCHAN
       47       71          6         29         75         D4         1
   LENGTH       SR       HOUR     MINUTE        SEC
     3001       10          2         18         37

     NREC       ID      MONTH        DAY       YEAR       SITE     NCHAN
       47       72          6         29         75         A0         1
   LENGTH       SR       HOUR     MINUTE        SEC
     3001       10         10         13         45

     NREC       ID      MONTH        DAY       YEAR       SITE     NCHAN
       47       72          6         29         75         B1         1
   LENGTH       SR       HOUR     MINUTE        SEC
     3001       10         10         13         45

     NREC       ID      MONTH        DAY       YEAR       SITE     NCHAN
       47       72          6         29         75         B2         1
   LENGTH       SR       HOUR     MINUTE        SEC
     3001       10         10         13         45

     NREC       ID      MONTH        DAY       YEAR       SITE     NCHAN
       47       72          6         29         75         B3         1
   LENGTH       SR       HOUR     MINUTE        SEC
     3001       10         10         13         45

     NREC       ID      MONTH        DAY       YEAR       SITE     NCHAN
       47       72          6         29         75         B4         1
   LENGTH       SR       HOUR     MINUTE        SEC
     3001       10         10         13         45

     NREC       ID      MONTH        DAY       YEAR       SITE     NCHAN
       47       72          6         29         75         C1         1
   LENGTH       SR       HOUR     MINUTE        SEC
     3001       10         10         13         45

     NREC       ID      MONTH        DAY       YEAR       SITE     NCHAN
       47       72          6         29         75         C2         1
   LENGTH       SR       HOUR     MINUTE        SEC
     3001       10         10         13         45

     NREC       ID      MONTH        DAY       YEAR       SITE     NCHAN
       47       72          6         29         75         C3         1
   LENGTH       SR       HOUR     MINUTE        SEC
     3001       10         10         13         45

     NREC       ID      MONTH        DAY       YEAR       SITE     NCHAN
       47       72          6         29         75         C4         1
   LENGTH       SR       HOUR     MINUTE        SEC
     3001       10         10         13         45

     NREC       ID      MONTH        DAY       YEAR       SITE     NCHAN
       47       72          6         29         75         D1         1
   LENGTH       SR       HOUR     MINUTE        SEC
     3001       10         10         13         45

     NREC       ID      MONTH        DAY       YEAR       SITE     NCHAN
       47       72          6         29         75         D2         1
   LENGTH       SR       HOUR     MINUTE        SEC
     3001       10         10         13         45
   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
    47        72          6        29        75       D3          1
  LENGTH      SR       HOUR    MINUTE       SEC
   3001       10         10        13        45

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
    47        72          6        29        75       D4          1
  LENGTH      SR       HOUR    MINUTE       SEC
   3001       10         10        13        45

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
    47        73          6        29        75       A0          1
  LENGTH      SR       HOUR    MINUTE       SEC
   3001       10         12        33        45

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
    47        73          6        29        75       B1          1
  LENGTH      SR       HOUR    MINUTE       SEC
   3001       10         12        33        45

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
    47        73          6        29        75       B2          1
  LENGTH      SR       HOUR    MINUTE       SEC
   3001       10         12        33        45

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
    47        73          6        29        75       B3          1
  LENGTH      SR       HOUR    MINUTE       SEC
   3001       10         12        33        45

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
    47        73          6        29        75       B4          1
  LENGTH      SR       HOUR    MINUTE       SEC
   3001       10         12        33        45

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
    47        73          6        29        75       C1          1
  LENGTH      SR       HOUR    MINUTE       SEC
   3001       10         12        33        45

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
    47        73          6        29        75       C2          1
  LENGTH      SR       HOUR    MINUTE       SEC
   3001       10         12        33        45

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
    47        73          6        29        75       C3          1
  LENGTH      SR       HOUR    MINUTE       SEC
   3001       10         12        33        45

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
    47        73          6        29        75       C4          1
  LENGTH      SR       HOUR    MINUTE       SEC
   3001       10         12        33        45

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
    47        73          6        29        75       D1          1
  LENGTH      SR       HOUR    MINUTE       SEC
   3001       10         12        33        45
```

```
      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        73         6        29        75        D2         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10        12        33        45

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        73         6        29        75        D3         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10        12        33        45

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        73         6        29        75        D4         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10        12        33        45

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        74         6        28        75        A0         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         0        49        23

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        74         6        28        75        B1         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         0        49        23

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        74         6        28        75        B2         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         0        49        23

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        74         6        28        75        B3         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         0        49        23

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        74         6        28        75        B4         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         0        49        23

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        74         6        28        75        C1         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         0        49        23

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        74         6        28        75        C2         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         0        49        23

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        74         6        28        75        C3         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         0        49        23

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        74         6        28        75        C4         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         0        49        23
    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      74         6        28       75        D1         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         0        49       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      74         6        28       75        D2         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         0        49       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      74         6        28       75        D3         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         0        49       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      74         6        28       75        D4         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         0        49       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      75         6        28       75        A0         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         9         4       28

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      75         6        28       75        B1         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         9         4       28

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      75         6        28       75        B2         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         9         4       28

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      75         6        28       75        B3         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         9         4       28

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      75         6        28       75        B4         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         9         4       28

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      75         6        28       75        C1         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         9         4       28

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      75         6        28       75        C2         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         9         4       28

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      75         6        28       75        C3         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         9         4       28
```

```
     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       75         6        28        75        C4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9         4        28

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       75         6        28        75        D1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9         4        28

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       75         6        28        75        D2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9         4        28

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       75         6        28        75        D3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9         4        28

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       75         6        28        75        D4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9         4        28

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       76         6        28        75        A0         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        57        35

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       76         6        28        75        B1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        57        35

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       76         6        28        75        B2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        57        35

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       76         6        28        75        B3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        57        35

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       76         6        28        75        B4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        57        35

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       76         6        28        75        C1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        57        35

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       76         6        28        75        C2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        57        35
   NREC       ID     MONTH      DAY     YEAR     SITE     NCHAN
    47        76        6        28       75       C3         1
  LENGTH      SR      HOUR    MINUTE     SEC
   3001       10       13        57       35

   NREC       ID     MONTH      DAY     YEAR     SITE     NCHAN
    47        76        6        28       75       C4         1
  LENGTH      SR      HOUR    MINUTE     SEC
   3001       10       13        57       35

   NREC       ID     MONTH      DAY     YEAR     SITE     NCHAN
    47        76        6        28       75       D1         1
  LENGTH      SR      HOUR    MINUTE     SEC
   3001       10       13        57       35

   NREC       ID     MONTH      DAY     YEAR     SITE     NCHAN
    47        76        6        28       75       D2         1
  LENGTH      SR      HOUR    MINUTE     SEC
   3001       10       13        57       35

   NREC       ID     MONTH      DAY     YEAR     SITE     NCHAN
    47        76        6        28       75       D3         1
  LENGTH      SR      HOUR    MINUTE     SEC
   3001       10       13        57       35

   NREC       ID     MONTH      DAY     YEAR     SITE     NCHAN
    47        76        6        28       75       D4         1
  LENGTH      SR      HOUR    MINUTE     SEC
   3001       10       13        57       35

   NREC       ID     MONTH      DAY     YEAR     SITE     NCHAN
    38        77        6        28       75       A0         1
  LENGTH      SR      HOUR    MINUTE     SEC
   2401       10       16        43       47

   NREC       ID     MONTH      DAY     YEAR     SITE     NCHAN
    38        77        6        28       75       B1         1
  LENGTH      SR      HOUR    MINUTE     SEC
   2401       10       16        43       47

   NREC       ID     MONTH      DAY     YEAR     SITE     NCHAN
    38        77        6        28       75       B2         1
  LENGTH      SR      HOUR    MINUTE     SEC
   2401       10       16        43       47

   NREC       ID     MONTH      DAY     YEAR     SITE     NCHAN
    38        77        6        28       75       B3         1
  LENGTH      SR      HOUR    MINUTE     SEC
   2401       10       16        43       47

   NREC       ID     MONTH      DAY     YEAR     SITE     NCHAN
    38        77        6        28       75       B4         1
  LENGTH      SR      HOUR    MINUTE     SEC
   2401       10       16        43       47

   NREC       ID     MONTH      DAY     YEAR     SITE     NCHAN
    38        77        6        28       75       C1         1
  LENGTH      SR      HOUR    MINUTE     SEC
   2401       10       16        43       47
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     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       38      77         6        28        75        C2         1
   LENGTH      SR      HOUR    MINUTE       SEC
     2401      10        16        43        47

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       38      77         6        28        75        C3         1
   LENGTH      SR      HOUR    MINUTE       SEC
     2401      10        16        43        47

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       38      77         6        28        75        C4         1
   LENGTH      SR      HOUR    MINUTE       SEC
     2401      10        16        43        47

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       38      77         6        28        75        D1         1
   LENGTH      SR      HOUR    MINUTE       SEC
     2401      10        16        43        47

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       38      77         6        28        75        D2         1
   LENGTH      SR      HOUR    MINUTE       SEC
     2401      10        16        43        47

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       38      77         6        28        75        D3         1
   LENGTH      SR      HOUR    MINUTE       SEC
     2401      10        16        43        47

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       38      77         6        28        75        D4         1
   LENGTH      SR      HOUR    MINUTE       SEC
     2401      10        16        43        47

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      78         6        28        75        A0         1
   LENGTH      SR      HOUR    MINUTE       SEC
     2999      10        18         4        12

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      78         6        28        75        B1         1
   LENGTH      SR      HOUR    MINUTE       SEC
     2999      10        18         4        12

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      78         6        28        75        B2         1
   LENGTH      SR      HOUR    MINUTE       SEC
     2999      10        18         4        12

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      78         6        28        75        B3         1
   LENGTH      SR      HOUR    MINUTE       SEC
     2999      10        18         4        12

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      78         6        28        75        B4         1
   LENGTH      SR      HOUR    MINUTE       SEC
     2999      10        18         4        12
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    NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
      47       78         6       28       75       C1        1
  LENGTH       SR      HOUR   MINUTE      SEC
    2999       10        18        4       12

    NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
      47       78         6       28       75       C2        1
  LENGTH       SR      HOUR   MINUTE      SEC
    2999       10        18        4       12

    NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
      47       78         6       28       75       C3        1
  LENGTH       SR      HOUR   MINUTE      SEC
    2999       10        18        4       12

    NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
      47       78         6       28       75       C4        1
  LENGTH       SR      HOUR   MINUTE      SEC
    2999       10        18        4       12

    NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
      47       78         6       28       75       D1        1
  LENGTH       SR      HOUR   MINUTE      SEC
    2999       10        18        4       12

    NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
      47       78         6       28       75       D2        1
  LENGTH       SR      HOUR   MINUTE      SEC
    2999       10        18        4       12

    NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
      47       78         6       28       75       D3        1
  LENGTH       SR      HOUR   MINUTE      SEC
    2999       10        18        4       12

    NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
      47       78         6       28       75       D4        1
  LENGTH       SR      HOUR   MINUTE      SEC
    2999       10        18        4       12

    NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
      47       79         6       27       75       A0        1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         6       10       16

    NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
      47       79         6       27       75       B1        1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         6       10       16

    NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
      47       79         6       27       75       B2        1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         6       10       16

    NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
      47       79         6       27       75       B3        1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         6       10       16
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      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       79         6        27        75        B4         1
    LENGTH       SP      HOUR    MINUTE       SEC
      3001       10         6        10        16

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       79         6        27        75        C1         1
    LENGTH       SP      HOUR    MINUTE       SEC
      3001       10         6        10        16

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       79         6        27        75        C2         1
    LENGTH       SP      HOUR    MINUTE       SEC
      3001       10         6        10        16

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       79         6        27        75        C3         1
    LENGTH       SP      HOUR    MINUTE       SEC
      3001       10         6        10        16

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       79         6        27        75        C4         1
    LENGTH       SP      HOUR    MINUTE       SEC
      3001       10         6        10        16

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       79         6        27        75        D1         1
    LENGTH       SP      HOUR    MINUTE       SEC
      3001       10         6        10        16

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       79         6        27        75        D2         1
    LENGTH       SP      HOUR    MINUTE       SEC
      3001       10         6        10        16

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       79         6        27        75        D3         1
    LENGTH       SP      HOUR    MINUTE       SEC
      3001       10         6        10        16

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       79         6        27        75        D4         1
    LENGTH       SP      HOUR    MINUTE       SEC
      3001       10         6        10        16

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       80         6        26        75        A0         1
    LENGTH       SP      HOUR    MINUTE       SEC
      3001       10         7        40        58

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       80         6        26        75        B1         1
    LENGTH       SP      HOUR    MINUTE       SEC
      3001       10         7        40        58

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       80         6        26        75        B2         1
    LENGTH       SP      HOUR    MINUTE       SEC
      3001       10         7        40        58
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   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47      80         6        26       75        B3        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10         7        40       58

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47      80         6        26       75        B4        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10         7        40       58

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47      80         6        26       75        C1        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10         7        40       58

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47      80         6        26       75        C2        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10         7        40       58

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47      80         6        26       75        C3        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10         7        40       58

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47      80         6        26       75        C4        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10         7        40       58

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47      80         6        26       75        D1        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10         7        40       58

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47      80         6        26       75        D2        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10         7        40       58

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47      80         6        26       75        D3        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10         7        40       58

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47      80         6        26       75        D4        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10         7        40       58

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47      81         6        26       75        A0        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10         8        16       23

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47      81         6        26       75        B1        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10         8        16       23
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    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      81         6        26       75        B2         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         8        16       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      81         6        26       75        B3         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         8        16       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      81         6        26       75        B4         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         8        16       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      81         6        26       75        C1         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         8        16       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      81         6        26       75        C2         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         8        16       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      81         6        26       75        C3         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         8        16       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      81         6        26       75        C4         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         8        16       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      81         6        26       75        D1         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         8        16       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      81         6        26       75        D2         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         8        16       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      81         6        26       75        D3         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         8        16       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      81         6        26       75        D4         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         8        16       23

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      38      82         6        26       75        A0         1
  LENGTH      SR      HOUR    MINUTE      SEC
    2401      10         9        27       44
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   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
    38        82         6        26        75        B1         1
  LENGTH      SR      HOUR    MINUTE       SEC
   2401       10         9        27        44

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
    38        82         6        26        75        B2         1
  LENGTH      SR      HOUR    MINUTE       SEC
   2401       10         9        27        44

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
    38        82         6        26        75        B3         1
  LENGTH      SR      HOUR    MINUTE       SEC
   2401       10         9        27        44

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
    38        82         6        26        75        B4         1
  LENGTH      SR      HOUR    MINUTE       SEC
   2401       10         9        27        44

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
    38        82         6        26        75        C1         1
  LENGTH      SR      HOUR    MINUTE       SEC
   2401       10         9        27        44

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
    38        82         6        26        75        C2         1
  LENGTH      SR      HOUR    MINUTE       SEC
   2401       10         9        27        44

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
    38        82         6        26        75        C3         1
  LENGTH      SR      HOUR    MINUTE       SEC
   2401       10         9        27        44

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
    38        82         6        26        75        C4         1
  LENGTH      SR      HOUR    MINUTE       SEC
   2401       10         9        27        44

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
    38        82         6        26        75        D1         1
  LENGTH      SR      HOUR    MINUTE       SEC
   2401       10         9        27        44

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
    38        82         6        26        75        D2         1
  LENGTH      SR      HOUR    MINUTE       SEC
   2401       10         9        27        44

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
    38        82         6        26        75        D3         1
  LENGTH      SR      HOUR    MINUTE       SEC
   2401       10         9        27        44

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
    38        82         6        26        75        D4         1
  LENGTH      SR      HOUR    MINUTE       SEC
   2401       10         9        27        44
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      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47        83         6        26        75        A0         1
     LENGTH      SR      HOUR    MINUTE       SEC
      3001       10        10         2         2

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47        83         6        26        75        B1         1
     LENGTH      SR      HOUR    MINUTE       SEC
      3001       10        10         2         2

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47        83         6        26        75        B2         1
     LENGTH      SR      HOUR    MINUTE       SEC
      3001       10        10         2         2

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47        83         6        26        75        B3         1
     LENGTH      SR      HOUR    MINUTE       SEC
      3001       10        10         2         2

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47        83         6        26        75        B4         1
     LENGTH      SR      HOUR    MINUTE       SEC
      3001       10        10         2         2

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47        83         6        26        75        C1         1
     LENGTH      SR      HOUR    MINUTE       SEC
      3001       10        10         2         2

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47        83         6        26        75        C2         1
     LENGTH      SR      HOUR    MINUTE       SEC
      3001       10        10         2         2

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47        83         6        26        75        C3         1
     LENGTH      SR      HOUR    MINUTE       SEC
      3001       10        10         2         2

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47        83         6        26        75        C4         1
     LENGTH      SR      HOUR    MINUTE       SEC
      3001       10        10         2         2

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47        83         6        26        75        D1         1
     LENGTH      SR      HOUR    MINUTE       SEC
      3001       10        10         2         2

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47        83         6        26        75        D2         1
     LENGTH      SR      HOUR    MINUTE       SEC
      3001       10        10         2         2

      NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47        83         6        26        75        D3         1
     LENGTH      SR      HOUR    MINUTE       SEC
      3001       10        10         2         2
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   NREC       ID     MONTH      DAY      YEAR      SITE     NCHAN
    47        83        6        26        75        D4         1
  LENGTH      SR      HOUR    MINUTE      SEC
   3001       10       10         2         2

   NREC       ID     MONTH      DAY      YEAR      SITE     NCHAN
    47        84        6        26        75        A0         1
  LENGTH      SR      HOUR    MINUTE      SEC
   3001       10       13        16         5

   NREC       ID     MONTH      DAY      YEAR      SITE     NCHAN
    47        84        6        26        75        B1         1
  LENGTH      SR      HOUR    MINUTE      SEC
   3001       10       13        16         5

   NREC       ID     MONTH      DAY      YEAR      SITE     NCHAN
    47        84        6        26        75        B2         1
  LENGTH      SR      HOUR    MINUTE      SEC
   3001       10       13        16         5

   NREC       ID     MONTH      DAY      YEAR      SITE     NCHAN
    47        84        6        26        75        B3         1
  LENGTH      SR      HOUR    MINUTE      SEC
   3001       10       13        16         5

   NREC       ID     MONTH      DAY      YEAR      SITE     NCHAN
    47        84        6        26        75        B4         1
  LENGTH      SR      HOUR    MINUTE      SEC
   3001       10       13        16         5

   NREC       ID     MONTH      DAY      YEAR      SITE     NCHAN
    47        84        6        26        75        C1         1
  LENGTH      SR      HOUR    MINUTE      SEC
   3001       10       13        16         5

   NREC       ID     MONTH      DAY      YEAR      SITE     NCHAN
    47        84        6        26        75        C2         1
  LENGTH      SR      HOUR    MINUTE      SEC
   3001       10       13        16         5

   NREC       ID     MONTH      DAY      YEAR      SITE     NCHAN
    47        84        6        26        75        C3         1
  LENGTH      SR      HOUR    MINUTE      SEC
   3001       10       13        16         5

   NREC       ID     MONTH      DAY      YEAR      SITE     NCHAN
    47        84        6        26        75        C4         1
  LENGTH      SR      HOUR    MINUTE      SEC
   3001       10       13        16         5

   NREC       ID     MONTH      DAY      YEAR      SITE     NCHAN
    47        84        6        26        75        D1         1
  LENGTH      SR      HOUR    MINUTE      SEC
   3001       10       13        16         5

   NREC       ID     MONTH      DAY      YEAR      SITE     NCHAN
    47        84        6        26        75        D2         1
  LENGTH      SR      HOUR    MINUTE      SEC
   3001       10       13        16         5
   NREC      ID     MONTH       DAY     YEAR     SITE     NCHAN
     47      84         6        26       75       D3         1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        13        16        5

   NREC      ID     MONTH       DAY     YEAR     SITE     NCHAN
     47      84         6        26       75       D4         1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        13        16        5

   NREC      ID     MONTH       DAY     YEAR     SITE     NCHAN
     47      85         6        26       75       A0         1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        15         7       24

   NREC      ID     MONTH       DAY     YEAR     SITE     NCHAN
     47      85         6        26       75       B1         1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        15         7       24

   NREC      ID     MONTH       DAY     YEAR     SITE     NCHAN
     47      85         6        26       75       B2         1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        15         7       24

   NREC      ID     MONTH       DAY     YEAR     SITE     NCHAN
     47      85         6        26       75       B3         1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        15         7       24

   NREC      ID     MONTH       DAY     YEAR     SITE     NCHAN
     47      85         6        26       75       B4         1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        15         7       24

   NREC      ID     MONTH       DAY     YEAR     SITE     NCHAN
     47      85         6        26       75       C1         1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        15         7       24

   NREC      ID     MONTH       DAY     YEAR     SITE     NCHAN
     47      85         6        26       75       C2         1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        15         7       24

   NREC      ID     MONTH       DAY     YEAR     SITE     NCHAN
     47      85         6        26       75       C3         1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        15         7       24

   NREC      ID     MONTH       DAY     YEAR     SITE     NCHAN
     47      85         6        26       75       C4         1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        15         7       24

   NREC      ID     MONTH       DAY     YEAR     SITE     NCHAN
     47      85         6        26       75       D1         1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        15         7       24
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     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       85         6        26        75        D2         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        15         7        24

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       85         6        26        75        D3         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        15         7        24

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       85         6        26        75        D4         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        15         7        24

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       86         6        26        75        A0         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        15        36         7

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       86         6        26        75        B1         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        15        36         7

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       86         6        26        75        B2         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        15        36         7

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       86         6        26        75        B3         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        15        36         7

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       86         6        26        75        B4         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        15        36         7

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       86         6        26        75        C1         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        15        36         7

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       86         6        26        75        C2         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        15        36         7

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       86         6        26        75        C3         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        15        36         7

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       86         6        26        75        C4         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        15        36         7
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      NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
        47      86         6        26        75        D1         1
    LENGTH      SR      HOUR    MINUTE       SEC
      3001      10        15        36         7

      NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
        47      86         6        26        75        D2         1
    LENGTH      SR      HOUR    MINUTE       SEC
      3001      10        15        36         7

      NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
        47      86         6        26        75        D3         1
    LENGTH      SR      HOUR    MINUTE       SEC
      3001      10        15        36         7

      NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
        47      86         6        26        75        D4         1
    LENGTH      SR      HOUR    MINUTE       SEC
      3001      10        15        36         7

      NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
        47      87         6        25        75        A0         1
    LENGTH      SR      HOUR    MINUTE       SEC
      3001      10        10        39        19

      NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
        47      87         6        25        75        B1         1
    LENGTH      SR      HOUR    MINUTE       SEC
      3001      10        10        39        19

      NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
        47      87         6        25        75        B2         1
    LENGTH      SR      HOUR    MINUTE       SEC
      3001      10        10        39        19

      NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
        47      87         6        25        75        B3         1
    LENGTH      SR      HOUR    MINUTE       SEC
      3001      10        10        39        19

      NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
        47      87         6        25        75        B4         1
    LENGTH      SR      HOUR    MINUTE       SEC
      3001      10        10        39        19

      NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
        47      87         6        25        75        C1         1
    LENGTH      SR      HOUR    MINUTE       SEC
      3001      10        10        39        19

      NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
        47      87         6        25        75        C2         1
    LENGTH      SR      HOUR    MINUTE       SEC
      3001      10        10        39        19

      NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
        47      87         6        25        75        C3         1
    LENGTH      SR      HOUR    MINUTE       SEC
      3001      10        10        39        19
    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
     47       87        6         25        75        C4         1
   LENGTH     SR      HOUR     MINUTE      SEC
    3001      10       10         39        19

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
     47       87        6         25        75        D1         1
   LENGTH     SR      HOUR     MINUTE      SEC
    3001      10       10         39        19

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
     47       87        6         25        75        D2         1
   LENGTH     SR      HOUR     MINUTE      SEC
    3001      10       10         39        19

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
     47       87        6         25        75        D3         1
   LENGTH     SR      HOUR     MINUTE      SEC
    3001      10       10         39        19

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
     47       87        6         25        75        D4         1
   LENGTH     SR      HOUR     MINUTE      SEC
    3001      10       10         39        19

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
     47       88        6         25        75        A0         1
   LENGTH     SR      HOUR     MINUTE      SEC
    3001      10       16         30        25

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
     47       88        6         25        75        B1         1
   LENGTH     SR      HOUR     MINUTE      SEC
    3001      10       16         30        25

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
     47       88        6         25        75        B2         1
   LENGTH     SR      HOUR     MINUTE      SEC
    3001      10       16         30        25

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
     47       88        6         25        75        B3         1
   LENGTH     SR      HOUR     MINUTE      SEC
    3001      10       16         30        25

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
     47       88        6         25        75        B4         1
   LENGTH     SR      HOUR     MINUTE      SEC
    3001      10       16         30        25

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
     47       88        6         25        75        C1         1
   LENGTH     SR      HOUR     MINUTE      SEC
    3001      10       16         30        25

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
     47       88        6         25        75        C2         1
   LENGTH     SR      HOUR     MINUTE      SEC
    3001      10       16         30        25
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      NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
        47        88          6         25        75        C3         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         16         30        25

      NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
        47        88          6         25        75        C4         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         16         30        25

      NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
        47        88          6         25        75        D1         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         16         30        25

      NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
        47        88          6         25        75        D2         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         16         30        25

      NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
        47        88          6         25        75        D3         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         16         30        25

      NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
        47        88          6         25        75        D4         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         16         30        25

      NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
        47        89          6         25        75        A0         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         19          1        33

      NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
        47        89          6         25        75        B1         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         19          1        33

      NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
        47        89          6         25        75        B2         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         19          1        33

      NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
        47        89          6         25        75        B3         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         19          1        33

      NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
        47        89          6         25        75        B4         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         19          1        33

      NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
        47        89          6         25        75        C1         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         19          1        33
    NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
      47       89          6        25        75        C2         1
   LENGTH      SR       HOUR    MINUTE       SEC
    3001       10         19         1        33

    NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
      47       89          6        25        75        C3         1
   LENGTH      SR       HOUR    MINUTE       SEC
    3001       10         19         1        33

    NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
      47       89          6        25        75        C4         1
   LENGTH      SR       HOUR    MINUTE       SEC
    3001       10         19         1        33

    NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
      47       89          6        25        75        D1         1
   LENGTH      SR       HOUR    MINUTE       SEC
    3001       10         19         1        33

    NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
      47       89          6        25        75        D2         1
   LENGTH      SR       HOUR    MINUTE       SEC
    3001       10         19         1        33

    NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
      47       89          6        25        75        D3         1
   LENGTH      SR       HOUR    MINUTE       SEC
    3001       10         19         1        33

    NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
      47       89          6        25        75        D4         1
   LENGTH      SR       HOUR    MINUTE       SEC
    3001       10         19         1        33

    NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
      47       90          6        23        75        A0         1
   LENGTH      SR       HOUR    MINUTE       SEC
    3001       10          9        22        47

    NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
      47       90          6        23        75        B1         1
   LENGTH      SR       HOUR    MINUTE       SEC
    3001       10          9        22        47

    NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
      47       90          6        23        75        B2         1
   LENGTH      SR       HOUR    MINUTE       SEC
    3001       10          9        22        47

    NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
      47       90          6        23        75        B3         1
   LENGTH      SR       HOUR    MINUTE       SEC
    3001       10          9        22        47

    NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
      47       90          6        23        75        B4         1
   LENGTH      SR       HOUR    MINUTE       SEC
    3001       10          9        22        47
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         NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
           47       90          6         23        75        C1         1
       LENGTH       SR       HOUR     MINUTE       SEC
         3001       10          9         22        47

         NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
           47       90          6         23        75        C2         1
       LENGTH       SR       HOUR     MINUTE       SEC
         3001       10          9         22        47

         NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
           47       90          6         23        75        C3         1
       LENGTH       SR       HOUR     MINUTE       SEC
         3001       10          9         22        47

         NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
           47       90          6         23        75        C4         1
       LENGTH       SR       HOUR     MINUTE       SEC
         3001       10          9         22        47

         NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
           47       90          6         23        75        D1         1
       LENGTH       SR       HOUR     MINUTE       SEC
         3001       10          9         22        47

         NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
           47       90          6         23        75        D2         1
       LENGTH       SR       HOUR     MINUTE       SEC
         3001       10          9         22        47

         NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
           47       90          6         23        75        D3         1
       LENGTH       SR       HOUR     MINUTE       SEC
         3001       10          9         22        47

         NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
           47       90          6         23        75        D4         1
       LENGTH       SR       HOUR     MINUTE       SEC
         3001       10          9         22        47

         NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
           47       91          6         22        75        A0         1
       LENGTH       SR       HOUR     MINUTE       SEC
         3001       10          4         32        58

         NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
           47       91          6         22        75        B1         1
       LENGTH       SR       HOUR     MINUTE       SEC
         3001       10          4         32        58

         NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
           47       91          6         22        75        B2         1
       LENGTH       SR       HOUR     MINUTE       SEC
         3001       10          4         32        58

         NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
           47       91          6         22        75        B3         1
       LENGTH       SR       HOUR     MINUTE       SEC
         3001       10          4         32        58
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    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      91         6        22        75        B4         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10         4        32        58

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      91         6        22        75        C1         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10         4        32        58

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      91         6        22        75        C2         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10         4        32        58

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      91         6        22        75        C3         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10         4        32        58

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      91         6        22        75        C4         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10         4        32        58

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      91         6        22        75        D1         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10         4        32        58

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      91         6        22        75        D2         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10         4        32        58

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      91         6        22        75        D3         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10         4        32        58

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      91         6        22        75        D4         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10         4        32        58

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      92         6        21        75        A0         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        16        30        20

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      92         6        21        75        B1         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        16        30        20

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      92         6        21        75        B2         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        16        30        20
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     NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
       47       92          6         21        75         B3          1
   LENGTH       SR       HOUR     MINUTE       SEC
     3001       10         16         30        20

     NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
       47       92          6         21        75         B4          1
   LENGTH       SR       HOUR     MINUTE       SEC
     3001       10         16         30        20

     NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
       47       92          6         21        75         C1          1
   LENGTH       SR       HOUR     MINUTE       SEC
     3001       10         16         30        20

     NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
       47       92          6         21        75         C2          1
   LENGTH       SR       HOUR     MINUTE       SEC
     3001       10         16         30        20

     NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
       47       92          6         21        75         C3          1
   LENGTH       SR       HOUR     MINUTE       SEC
     3001       10         16         30        20

     NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
       47       92          6         21        75         C4          1
   LENGTH       SR       HOUR     MINUTE       SEC
     3001       10         16         30        20

     NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
       47       92          6         21        75         D1          1
   LENGTH       SR       HOUR     MINUTE       SEC
     3001       10         16         30        20

     NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
       47       92          6         21        75         D2          1
   LENGTH       SR       HOUR     MINUTE       SEC
     3001       10         16         30        20

     NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
       47       92          6         21        75         D3          1
   LENGTH       SR       HOUR     MINUTE       SEC
     3001       10         16         30        20

     NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
       47       92          6         21        75         D4          1
   LENGTH       SR       HOUR     MINUTE       SEC
     3001       10         16         30        20

     NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
       47       93          6         16        75         A0          1
   LENGTH       SR       HOUR     MINUTE       SEC
     3001       10          4         26        31

     NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
       47       93          6         16        75         B1          1
   LENGTH       SR       HOUR     MINUTE       SEC
     3001       10          4         26        31
   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
    47       93         6        16       75        B2         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10         4        26       31

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
    47       93         6        16       75        B3         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10         4        26       31

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
    47       93         6        16       75        B4         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10         4        26       31

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
    47       93         6        16       75        C1         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10         4        26       31

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
    47       93         6        16       75        C2         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10         4        26       31

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
    47       93         6        16       75        C3         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10         4        26       31

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
    47       93         6        16       75        C4         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10         4        26       31

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
    47       93         6        16       75        D1         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10         4        26       31

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
    47       93         6        16       75        D2         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10         4        26       31

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
    47       93         6        16       75        D3         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10         4        26       31

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
    47       93         6        16       75        D4         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10         4        26       31

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
    47       94         6        15       75        A0         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10        14         9       33
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    NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
      47       94         6        15       75        B1         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10        14         9       33

    NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
      47       94         6        15       75        B2         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10        14         9       33

    NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
      47       94         6        15       75        B3         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10        14         9       33

    NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
      47       94         6        15       75        B4         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10        14         9       33

    NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
      47       94         6        15       75        C1         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10        14         9       33

    NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
      47       94         6        15       75        C2         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10        14         9       33

    NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
      47       94         6        15       75        C3         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10        14         9       33

    NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
      47       94         6        15       75        C4         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10        14         9       33

    NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
      47       94         6        15       75        D1         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10        14         9       33

    NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
      47       94         6        15       75        D2         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10        14         9       33

    NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
      47       94         6        15       75        D3         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10        14         9       33

    NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
      47       94         6        15       75        D4         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10        14         9       33
    NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
      47       95         6       14       75        A0         1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         5       37       39

    NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
      47       95         6       14       75        B1         1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         5       37       39

    NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
      47       95         6       14       75        B2         1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         5       37       39

    NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
      47       95         6       14       75        B3         1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         5       37       39

    NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
      47       95         6       14       75        B4         1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         5       37       39

    NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
      47       95         6       14       75        C1         1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         5       37       39

    NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
      47       95         6       14       75        C2         1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         5       37       39

    NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
      47       95         6       14       75        C3         1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         5       37       39

    NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
      47       95         6       14       75        C4         1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         5       37       39

    NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
      47       95         6       14       75        D1         1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         5       37       39

    NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
      47       95         6       14       75        D2         1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         5       37       39

    NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
      47       95         6       14       75        D3         1
  LENGTH       SR      HOUR   MINUTE      SEC
    3001       10         5       37       39
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     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47       95         6        14       75        D4         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         5        37       39

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47       96         6        10       75        A0         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         6        34       32

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47       96         6        10       75        B1         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         6        34       32

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47       96         6        10       75        B2         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         6        34       32

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47       96         6        10       75        B3         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         6        34       32

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47       96         6        10       75        B4         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         6        34       32

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47       96         6        10       75        C1         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         6        34       32

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47       96         6        10       75        C2         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         6        34       32

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47       96         6        10       75        C3         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         6        34       32

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47       96         6        10       75        C4         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         6        34       32

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47       96         6        10       75        D1         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         6        34       32

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47       96         6        10       75        D2         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         6        34       32
     NREC        ID      MONTH         DAY       YEAR       SITE      NCHAN
       47        96          6          10         75         D3          1
   LENGTH        SR       HOUR      MINUTE        SEC
     3001        10          6          34         32

     NREC        ID      MONTH         DAY       YEAR       SITE      NCHAN
       47        96          6          10         75         D4          1
   LENGTH        SR       HOUR      MINUTE        SEC
     3001        10          6          34         32

     NREC        ID      MONTH         DAY       YEAR       SITE      NCHAN
       47        79          6          10         75         A0          1
   LENGTH        SR       HOUR      MINUTE        SEC
     3001        10          8          53         17

     NREC        ID      MONTH         DAY       YEAR       SITE      NCHAN
       47        79          6          10         75         B1          1
   LENGTH        SR       HOUR      MINUTE        SEC
     3001        10          8          53         17

     NREC        ID      MONTH         DAY       YEAR       SITE      NCHAN
       47        79          6          10         75         B2          1
   LENGTH        SR       HOUR      MINUTE        SEC
     3001        10          8          53         17

     NREC        ID      MONTH         DAY       YEAR       SITE      NCHAN
       47        79          6          10         75         B3          1
   LENGTH        SR       HOUR      MINUTE        SEC
     3001        10          8          53         17

     NREC        ID      MONTH         DAY       YEAR       SITE      NCHAN
       47        79          6          10         75         B4          1
   LENGTH        SR       HOUR      MINUTE        SEC
     3001        10          8          53         17

     NREC        ID      MONTH         DAY       YEAR       SITE      NCHAN
       47        79          6          10         75         C1          1
   LENGTH        SR       HOUR      MINUTE        SEC
     3001        10          8          53         17

     NREC        ID      MONTH         DAY       YEAR       SITE      NCHAN
       47        79          6          10         75         C2          1
   LENGTH        SR       HOUR      MINUTE        SEC
     3001        10          8          53         17

     NREC        ID      MONTH         DAY       YEAR       SITE      NCHAN
       47        79          6          10         75         C3          1
   LENGTH        SR       HOUR      MINUTE        SEC
     3001        10          8          53         17

     NREC        ID      MONTH         DAY       YEAR       SITE      NCHAN
       47        79          6          10         75         C4          1
   LENGTH        SR       HOUR      MINUTE        SEC
     3001        10          8          53         17

     NREC        ID      MONTH         DAY       YEAR       SITE      NCHAN
       47        79          6          10         75         D1          1
   LENGTH        SR       HOUR      MINUTE        SEC
     3001        10          8          53         17
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      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        79         6        10        75        D2         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         8        53        17

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        79         6        10        75        D3         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         8        53        17

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        79         6        10        75        D4         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         8        53        17

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        98         6         9        75        A0         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         1        51        22

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        98         6         9        75        B1         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         1        51        22

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        98         6         9        75        B2         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         1        51        22

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        98         6         9        75        B3         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         1        51        22

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        98         6         9        75        B4         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         1        51        22

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        98         6         9        75        C1         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         1        51        22

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        98         6         9        75        C2         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         1        51        22

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        98         6         9        75        C3         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         1        51        22

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        98         6         9        75        C4         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         1        51        22
    NREC       ID      MONTH       DAY       YEAR       SITE      NCHAN
     47        98         6          9         75        D1            1
  LENGTH       SR       HOUR    MINUTE        SEC
    3001       10          1        51         22

    NREC       ID      MONTH       DAY       YEAR       SITE      NCHAN
     47        98         6          9         75        D2            1
  LENGTH       SR       HOUR    MINUTE        SEC
    3001       10          1        51         22

    NREC       ID      MONTH       DAY       YEAR       SITE      NCHAN
     47        98         6          9         75        D3            1
  LENGTH       SR       HOUR    MINUTE        SEC
    3001       10          1        51         22

    NREC       ID      MONTH       DAY       YEAR       SITE      NCHAN
     47        98         6          9         75        D4            1
  LENGTH       SR       HOUR    MINUTE        SEC
    3001       10          1        51         22

    NREC       ID      MONTH       DAY       YEAR       SITE      NCHAN
     47        99         6          9         75        A0            1
  LENGTH       SR       HOUR    MINUTE        SEC
    3001       10         20        29         43

    NREC       ID      MONTH       DAY       YEAR       SITE      NCHAN
     47        99         6          9         75        B1            1
  LENGTH       SR       HOUR    MINUTE        SEC
    3001       10         20        29         43

    NREC       ID      MONTH       DAY       YEAR       SITE      NCHAN
     47        99         6          9         75        B2            1
  LENGTH       SR       HOUR    MINUTE        SEC
    3001       10         20        29         43

    NREC       ID      MONTH       DAY       YEAR       SITE      NCHAN
     47        99         6          9         75        B3            1
  LENGTH       SR       HOUR    MINUTE        SEC
    3001       10         20        29         43

    NREC       ID      MONTH       DAY       YEAR       SITE      NCHAN
     47        99         6          9         75        B4            1
  LENGTH       SR       HOUR    MINUTE        SEC
    3001       10         20        29         43

    NREC       ID      MONTH       DAY       YEAR       SITE      NCHAN
     47        99         6          9         75        C1            1
  LENGTH       SR       HOUR    MINUTE        SEC
    3001       10         20        29         43

    NREC       ID      MONTH       DAY       YEAR       SITE      NCHAN
     47        99         6          9         75        C2            1
  LENGTH       SR       HOUR    MINUTE        SEC
    3001       10         20        29         43

    NREC       ID      MONTH       DAY       YEAR       SITE      NCHAN
     47        99         6          9         75        C3            1
  LENGTH       SR       HOUR    MINUTE        SEC
    3001       10         20        29         43
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     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       99         6         9        75        C4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        20        29        43

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       99         6         9        75        D1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        20        29        43

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       99         6         9        75        D2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        20        29        43

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       99         6         9        75        D3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        20        29        43

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       99         6         9        75        D4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        20        29        43

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      100         6         9        75        A0         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        22        13         8

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      100         6         9        75        B1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        22        13         8

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      100         6         9        75        B2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        22        13         8

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      100         6         9        75        B3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        22        13         8

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      100         6         9        75        B4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        22        13         8

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      100         6         9        75        C1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        22        13         8

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      100         6         9        75        C2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        22        13         8
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    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      100         6         9        75        C3         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        22        13         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      100         6         9        75        C4         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        22        13         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      100         6         9        75        D1         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        22        13         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      100         6         9        75        D2         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        22        13         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      100         6         9        75        D3         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        22        13         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      100         6         9        75        D4         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        22        13         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      101         6         8        75        A0         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         5        10        34

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      101         6         8        75        B1         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         5        10        34

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      101         6         8        75        B2         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         5        10        34

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      101         6         8        75        B3         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         5        10        34

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      101         6         8        75        B4         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         5        10        34

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      101         6         8        75        C1         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         5        10        34
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      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       101          6           8        75         C2          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          10        34

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       101          6           8        75         C3          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          10        34

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       101          6           8        75         C4          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          10        34

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       101          6           8        75         D1          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          10        34

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       101          6           8        75         D2          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          10        34

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       101          6           8        75         D3          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          10        34

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       101          6           8        75         D4          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          10        34

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       102          6           8        75         A0          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10         18          44        55

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       102          6           8        75         B1          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10         18          44        55

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       102          6           8        75         B2          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10         18          44        55

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       102          6           8        75         B3          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10         18          44        55

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       102          6           8        75         B4          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10         18          44        55
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     NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       102         6         8        75        C1         1
   LENGTH        SR      HOUR    MINUTE       SEC
     3001        10        18        44        55

     NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       102         6         8        75        C2         1
   LENGTH        SR      HOUR    MINUTE       SEC
     3001        10        18        44        55

     NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       102         6         8        75        C3         1
   LENGTH        SR      HOUR    MINUTE       SEC
     3001        10        18        44        55

     NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       102         6         8        75        C4         1
   LENGTH        SR      HOUR    MINUTE       SEC
     3001        10        18        44        55

     NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       102         6         8        75        D1         1
   LENGTH        SR      HOUR    MINUTE       SEC
     3001        10        18        44        55

     NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       102         6         8        75        D2         1
   LENGTH        SR      HOUR    MINUTE       SEC
     3001        10        18        44        55

     NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       102         6         8        75        D3         1
   LENGTH        SR      HOUR    MINUTE       SEC
     3001        10        18        44        55

     NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       102         6         8        75        D4         1
   LENGTH        SR      HOUR    MINUTE       SEC
     3001        10        18        44        55

     NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       103         6         7        75        A0         1
   LENGTH        SR      HOUR    MINUTE       SEC
     3001        10         6         9        50

     NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       103         6         7        75        B1         1
   LENGTH        SR      HOUR    MINUTE       SEC
     3001        10         6         9        50

     NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       103         6         7        75        B2         1
   LENGTH        SR      HOUR    MINUTE       SEC
     3001        10         6         9        50

     NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       103         6         7        75        B3         1
   LENGTH        SR      HOUR    MINUTE       SEC
     3001        10         6         9        50
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         NREC      ID     MONTH        DAY      YEAR      SITE      NCHAN
           47     103         6          7        75        B4          1
       LENGTH      SR      HOUR     MINUTE       SEC
         3001      10         6          9        50

         NREC      ID     MONTH        DAY      YEAR      SITE      NCHAN
           47     103         6          7        75        C1          1
       LENGTH      SR      HOUR     MINUTE       SEC
         3001      10         6          9        50

         NREC      ID     MONTH        DAY      YEAR      SITE      NCHAN
           47     103         6          7        75        C2          1
       LENGTH      SR      HOUR     MINUTE       SEC
         3001      10         6          9        50

         NREC      ID     MONTH        DAY      YEAR      SITE      NCHAN
           47     103         6          7        75        C3          1
       LENGTH      SR      HOUR     MINUTE       SEC
         3001      10         6          9        50

         NREC      ID     MONTH        DAY      YEAR      SITE      NCHAN
           47     103         6          7        75        C4          1
       LENGTH      SR      HOUR     MINUTE       SEC
         3001      10         6          9        50

         NREC      ID     MONTH        DAY      YEAR      SITE      NCHAN
           47     103         6          7        75        D1          1
       LENGTH      SR      HOUR     MINUTE       SEC
         3001      10         6          9        50

         NREC      ID     MONTH        DAY      YEAR      SITE      NCHAN
           47     103         6          7        75        D3          1
       LENGTH-     SR      HOUR     MINUTE       SEC
         3001      10         6          9        50

         NREC      ID     MONTH        DAY      YEAR      SITE      NCHAN
           47     103         6          7        75        D4          1
       LENGTH      SR      HOUR     MINUTE       SEC
         3001      10         6          9        50

         NREC      ID     MONTH        DAY      YEAR      SITE      NCHAN
           47     104         6          7        75        A0          1
       LENGTH      SR      HOUR     MINUTE       SEC
         3001      10        17         39        26

         NREC      ID     MONTH        DAY      YEAR      SITE      NCHAN
           47     104         6          7        75        B1          1
       LENGTH      SR      HOUR     MINUTE       SEC
         3001      10        17         39        26

         NREC      ID     MONTH        DAY      YEAR      SITE      NCHAN
           47     104         6          7        75        B2          1
       LENGTH      SR      HOUR     MINUTE       SEC
         3001      10        17         39        26

         NREC      ID     MONTH        DAY      YEAR      SITE      NCHAN
           47     104         6          7        75        B3          1
       LENGTH      SR      HOUR     MINUTE       SEC
         3001      10        17         39        26
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   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      104         6         7        75        B4         1
  LENGTH      SR      HOUR    MINUTE       SEC
   3001       10        17        39        26

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      104         6         7        75        C1         1
  LENGTH      SR      HOUR    MINUTE       SEC
   3001       10        17        39        26

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      104         6         7        75        C2         1
  LENGTH      SR      HOUR    MINUTE       SEC
   3001       10        17        39        26

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      104         6         7        75        C3         1
  LENGTH      SR      HOUR    MINUTE       SEC
   3001       10        17        39        26

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      104         6         7        75        C4         1
  LENGTH      SR      HOUR    MINUTE       SEC
   3001       10        17        39        26

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      104         6         7        75        D1         1
  LENGTH      SR      HOUR    MINUTE       SEC
   3001       10        17        39        26

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      104         6         7        75        D2         1
  LENGTH      SR      HOUR    MINUTE       SEC
   3001       10        17        39        26

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      104         6         7        75        D3         1
  LENGTH      SR      HOUR    MINUTE       SEC
   3001       10        17        39        26

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      104         6         7        75        D4         1
  LENGTH      SR      HOUR    MINUTE       SEC
   3001       10        17        39        26

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      105         6         7        75        A0         1
  LENGTH      SR      HOUR    MINUTE       SEC
   3001       10        17        47        28

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      105         6         7        75        B1         1
  LENGTH      SR      HOUR    MINUTE       SEC
   3001       10        17        47        28

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      105         6         7        75        B2         1
  LENGTH      SR      HOUR    MINUTE       SEC
   3001       10        17        47        28
   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47     105         6         7       75        B3        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        17        47       28

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47     105         6         7       75        B4        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        17        47       28

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47     105         6         7       75        C1        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        17        47       28

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47     105         6         7       75        C2        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        17        47       28

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47     105         6         7       75        C3        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        17        47       28

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47     105         6         7       75        C4        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        17        47       28

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47     105         6         7       75        D1        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        17        47       28

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47     105         6         7       75        D2        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        17        47       28

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47     105         6         7       75        D3        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        17        47       28

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47     105         6         7       75        D4        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        17        47       28

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47     106         6         6       75        A0        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        11         1       40

   NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
     47     106         6         6       75        B1        1
 LENGTH      SR      HOUR    MINUTE      SEC
   3001      10        11         1       40
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    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      106         6         6        75        B2         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        11         1        40

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      106         6         6        75        B3         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        11         1        40

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      106         6         6        75        B4         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        11         1        40

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      106         6         6        75        C1         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        11         1        40

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      106         6         6        75        C2         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        11         1        40

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      106         6         6        75        C3         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        11         1        40

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      106         6         6        75        C4         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        11         1        40

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      106         6         6        75        D1         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        11         1        40

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      106         6         6        75        D2         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        11         1        40

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      106         6         6        75        D3         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        11         1        40

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      106         6         6        75        D4         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        11        11        40

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      107         6         4        75        A0         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         2        36         6
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     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      107         6         4       75        B1         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         2        36        6

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      107         6         4       75        B2         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         2        36        6

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      107         6         4       75        B3         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         2        36        6

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      107         6         4       75        B4         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         2        36        6

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      107         6         4       75        C1         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         2        36        6

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      107         6         4       75        C2         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         2        36        6

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      107         6         4       75        C3         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         2        36        6

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      107         6         4       75        C4         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         2        36        6

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      107         6         4       75        D1         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         2        36        6

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      107         6         4       75        D2         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         2        36        6

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      107         6         4       75        D3         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         2        36        6

     NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      107         6         4       75        D4         1
   LENGTH       SR      HOUR    MINUTE      SEC
     3001       10         2        36        6
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    NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
      47      108          6          4        75         A0          1
  LENGTH       SR       HOUR     MINUTE       SEC
    3001       10          3          6         6

    NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
      47      108          6          4        75         B1          1
  LENGTH       SR       HOUR     MINUTE       SEC
    3001       10          3          6         6

    NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
      47      108          6          4        75         B2          1
  LENGTH       SR       HOUR     MINUTE       SEC
    3001       10          3          6         6

    NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
      47      108          6          4        75         B3          1
  LENGTH       SR       HOUR     MINUTE       SEC
    3001       10          3          6         6

    NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
      47      108          6          4        75         B4          1
  LENGTH       SR       HOUR     MINUTE       SEC
    3001       10          3          6         6

    NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
      47      108          6          4        75         C1          1
  LENGTH       SR       HOUR     MINUTE       SEC
    3001       10          3          6         6

    NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
      47      108          6          4        75         C2          1
  LENGTH       SR       HOUR     MINUTE       SEC
    3001       10          3          6         6

    NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
      47      108          6          4        75         C3          1
  LENGTH       SR       HOUR     MINUTE       SEC
    3001       10          3          6         6

    NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
      47      108          6          4        75         C4          1
  LENGTH       SR       HOUR     MINUTE       SEC
    3001       10          3          6         6

    NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
      47      108          6          4        75         D1          1
  LENGTH       SR       HOUR     MINUTE       SEC
    3001       10          3          6         6

    NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
      47      108          6          4        75         D2          1
  LENGTH       SR       HOUR     MINUTE       SEC
    3001       10          3          6         6

    NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
      47      108          6          4        75         D3          1
  LENGTH       SR       HOUR     MINUTE       SEC
    3001       10          3          6         6
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      NREC       ID     MONTH        DAY     YEAR      SITE     NCHAN
       47       108         6          4       75        D4         1
    LENGTH       SR      HOUR     MINUTE      SEC
     3001        10         3          6        6

      NREC       ID     MONTH        DAY     YEAR      SITE     NCHAN
       47       109         6          4       75        A0         1
    LENGTH       SR      HOUR     MINUTE      SEC
     3001        10         3          7       43

      NREC       ID     MONTH        DAY     YEAR      SITE     NCHAN
       47       109         6          4       75        B1         1
    LENGTH       SR      HOUR     MINUTE      SEC
     3001        10         3          7       43

      NREC       ID     MONTH        DAY     YEAR      SITE     NCHAN
       47       109         6          4       75        B2         1
    LENGTH       SR      HOUR     MINUTE      SEC
     3001        10         3          7       43

      NREC       ID     MONTH        DAY     YEAR      SITE     NCHAN
       47       109         6          4       75        B3         1
    LENGTH       SR      HOUR     MINUTE      SEC
     3001        10         3          7       43

      NREC       ID     MONTH        DAY     YEAR      SITE     NCHAN
       47       109         6          4       75        B4         1
    LENGTH       SR      HOUR     MINUTE      SEC
     3001        10         3          7       43

      NREC       ID     MONTH        DAY     YEAR      SITE     NCHAN
       47       109         6          4       75        C1         1
    LENGTH       SR      HOUR     MINUTE      SEC
     3001        10         3          7       43

      NREC       ID     MONTH        DAY     YEAR      SITE     NCHAN
       47       109         6          4       75        C2         1
    LENGTH       SR      HOUR     MINUTE      SEC
     3001        10         3          7       43

      NREC       ID     MONTH        DAY     YEAR      SITE     NCHAN
       47       109         6          4       75        C3         1
    LENGTH       SR      HOUR     MINUTE      SEC
     3001        10         3          7       43

      NREC       ID     MONTH        DAY     YEAR      SITE     NCHAN
       47       109         6          4       75        C4         1
    LENGTH       SR      HOUR     MINUTE      SEC
     3001        10         3          7       43

      NREC       ID     MONTH        DAY     YEAR      SITE     NCHAN
       47       109         6          4       75        D1         1
    LENGTH       SR      HOUR     MINUTE      SEC
     3001        10         3          7       43

      NREC       ID     MONTH        DAY     YEAR      SITE     NCHAN
       47       109         6          4       75        D2         1
    LENGTH       SR      HOUR     MINUTE      SEC
     3001        10         3          7       43
    NREC       ID     MONTH       DAY     YEAR     SITE     NCHAN
      47      109         6         4       75       D3         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10         3         7       43

    NREC       ID     MONTH       DAY     YEAR     SITE     NCHAN
      47      109         6         4       75       D4         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10         3         7       43

    NREC       ID     MONTH       DAY     YEAR     SITE     NCHAN
      47      110         6         3       75       A0         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10         3        35       39

    NREC       ID     MONTH       DAY     YEAR     SITE     NCHAN
      47      110         6         3       75       B1         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10         3        35       39

    NREC       ID     MONTH       DAY     YEAR     SITE     NCHAN
      47      110         6         3       75       B2         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10         3        35       39

    NREC       ID     MONTH       DAY     YEAR     SITE     NCHAN
      47      110         6         3       75       B3         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10         3        35       39

    NREC       ID     MONTH       DAY     YEAR     SITE     NCHAN
      47      110         6         3       75       B4         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10         3        35       39

    NREC       ID     MONTH       DAY     YEAR     SITE     NCHAN
      47      110         6         3       75       C1         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10         3        35       39

    NREC       ID     MONTH       DAY     YEAR     SITE     NCHAN
      47      110         6         3       75       C2         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10         3        35       39

    NREC       ID     MONTH       DAY     YEAR     SITE     NCHAN
      47      110         6         3       75       C3         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10         3        35       39

    NREC       ID     MONTH       DAY     YEAR     SITE     NCHAN
      47      110         6         3       75       C4         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10         3        35       39

    NREC       ID     MONTH       DAY     YEAR     SITE     NCHAN
      47      110         6         3       75       D1         1
  LENGTH       SR      HOUR    MINUTE      SEC
    3001       10         3        35       39
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   NREC      ID    MONTH      DAY     YEAR     SITE    NCHAN
     47     110        6        3       75       D2        1
 LENGTH      SR     HOUR   MINUTE      SEC
   3001      10        3       35       39

   NREC      ID    MONTH      DAY     YEAR     SITE    NCHAN
     47     110        6        3       75       D3        1
 LENGTH      SR     HOUR   MINUTE      SEC
   3001      10        3       35       39

   NREC      ID    MONTH      DAY     YEAR     SITE    NCHAN
     47     110        6        3       75       D4        1
 LENGTH      SR     HOUR   MINUTE      SEC
   3001      10        3       35       39

   NREC      ID    MONTH      DAY     YEAR     SITE    NCHAN
     47     111        6        2       75       A0        1
 LENGTH      SR     HOUR   MINUTE      SEC
   3001      10        3       29       49

   NREC      ID    MONTH      DAY     YEAR     SITE    NCHAN
     47     111        6        2       75       B1        1
 LENGTH      SR     HOUR   MINUTE      SEC
   3001      10        3       29       49

   NREC      ID    MONTH      DAY     YEAR     SITE    NCHAN
     47     111        6        2       75       B2        1
 LENGTH      SR     HOUR   MINUTE      SEC
   3001      10        3       29       49

   NREC      ID    MONTH      DAY     YEAR     SITE    NCHAN
     47     111        6        2       75       B3        1
 LENGTH      SR     HOUR   MINUTE      SEC
   3001      10        3       29       49

   NREC      ID    MONTH      DAY     YEAR     SITE    NCHAN
     47     111        6        2       75       B4        1
 LENGTH      SR     HOUR   MINUTE      SEC
   3001      10        3       29       49

   NREC      ID    MONTH      DAY     YEAR     SITE    NCHAN
     47     111        6        2       75       C1        1
 LENGTH      SR     HOUR   MINUTE      SEC
   3001      10        3       29       49

   NREC      ID    MONTH      DAY     YEAR     SITE    NCHAN
     47     111        6        2       75       C2        1
 LENGTH      SR     HOUR   MINUTE      SEC
   3001      10        3       29       49

   NREC      ID    MONTH      DAY     YEAR     SITE    NCHAN
     47     111        6        2       75       C3        1
 LENGTH      SR     HOUR   MINUTE      SEC
   3001      10        3       29       49

   NREC      ID    MONTH      DAY     YEAR     SITE    NCHAN
     47     111        6        2       75       C4        1
 LENGTH      SR     HOUR   MINUTE      SEC
   3001      10        3       29       49
 NREC     ID     MONTH     DAY     YEAR    SITE   NCHAN
   47     111        6       2       75      D1        1
LENGTH    SR      HOUR   MINUTE     SEC
 3001      10        3      29       49

 NREC     ID     MONTH     DAY     YEAR    SITE   NCHAN
   47     111        6       2       75      D2        1
LENGTH    SR      HOUR   MINUTE     SEC
 3001      10        3      29       49

 NREC     ID     MONTH     DAY     YEAR    SITE   NCHAN
   47     111        6       2       75      D3        1
LENGTH    SR      HOUR   MINUTE     SEC
 3001      10        3      29       49

 NREC     ID     MONTH     DAY     YEAR    SITE   NCHAN
   47     111        6       2       75      D4        1
LENGTH    SR      HOUR   MINUTE     SEC
 3001      10        3      29       49

 NREC     ID     MONTH     DAY     YEAR    SITE   NCHAN
   47     112        5      31       75      A0        1
LENGTH    SR      HOUR   MINUTE     SEC
 3001      10       14      26       47

 NREC     ID     MONTH     DAY     YEAR    SITE   NCHAN
   47     112        5      31       75      B1        1
LENGTH    SR      HOUR   MINUTE     SEC
 3001      10       14      26       47

 NREC     ID     MONTH     DAY     YEAR    SITE   NCHAN
   47     112        5      31       75      B2        1
LENGTH    SR      HOUR   MINUTE     SEC
 3001      10       14      26       47

 NREC     ID     MONTH     DAY     YEAR    SITE   NCHAN
   47     112        5      31       75      B3        1
LENGTH    SR      HOUR   MINUTE     SEC
 3001      10       14      26       47

 NREC     ID     MONTH     DAY     YEAR    SITE   NCHAN
   47     112        5      31       75      B4        1
LENGTH    SR      HOUR   MINUTE     SEC
 3001      10       14      26       47

 NREC     ID     MONTH     DAY     YEAR    SITE   NCHAN
   47     112        5      31       75      C1        1
LENGTH    SR      HOUR   MINUTE     SEC
 3001      10       14      26       47

 NREC     ID     MONTH     DAY     YEAR    SITE   NCHAN
   47     112        5      31       75      C2        1
LENGTH    SR      HOUR   MINUTE     SEC
 3001      10       14      26       47

 NREC     ID     MONTH     DAY     YEAR    SITE   NCHAN
   47     112        5      31       75      C3        1
LENGTH    SR      HOUR   MINUTE     SEC
 3001      10       14      26       47
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   NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       112          5         31        75        C4         1
 LENGTH        SR       HOUR     MINUTE       SEC
   3001        10         14         26        47

   NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       112          5         31        75        D1         1
 LENGTH        SR       HOUR     MINUTE       SEC
   3001        10         14         26        47

   NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       112          5         31        75        D2         1
 LENGTH        SR       HOUR     MINUTE       SEC
   3001        10         14         26        47

   NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       112          5         31        75        D3         1
 LENGTH        SR       HOUR     MINUTE       SEC
   3001        10         14         26        47

   NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       112          5         31        75        D4         1
 LENGTH        SR       HOUR     MINUTE       SEC
   3001        10         14         26        47

   NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       113          5         30        75        A0         1
 LENGTH        SR       HOUR     MINUTE       SEC
   3001        10          0         58        33

   NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       113          5         30        75        B1         1
 LENGTH        SR       HOUR     MINUTE       SEC
   3001        10          0         58        33

   NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       113          5         30        75        B2         1
 LENGTH        SR       HOUR     MINUTE       SEC
   3001        10          0         58        33

   NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       113          5         30        75        B3         1
 LENGTH        SR       HOUR     MINUTE       SEC
   3001        10          0         58        33

   NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       113          5         30        75        B4         1
 LENGTH        SR       HOUR     MINUTE       SEC
   3001        10          0         58        33

   NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       113          5         30        75        C1         1
 LENGTH        SR       HOUR     MINUTE       SEC
   3001        10          0         58        33

   NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       113          5         30        75        C2         1
 LENGTH        SR       HOUR     MINUTE       SEC
   3001        10          0         58        33
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  NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
    47     113         5       30       75       C3        1
LENGTH      SR      HOUR   MINUTE      SEC
  3001      10         0       58       33

  NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
    47     113         5       30       75       C4        1
LENGTH      SR      HOUR   MINUTE      SEC
  3001      10         0       58       33

  NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
    47     113         5       30       75       D1        1
LENGTH      SR      HOUR   MINUTE      SEC
  3001      10         0       58       33

  NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
    47     113         5       30       75       D2        1
LENGTH      SR      HOUR   MINUTE      SEC
  3001      10         0       58       33

  NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
    47     113         5       30       75       D3        1
LENGTH      SR      HOUR   MINUTE      SEC
  3001      10         0       58       33

  NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
    47     113         5       30       75       D4        1
LENGTH      SR      HOUR   MINUTE      SEC
  3001      10         0       58       33

  NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
    47     114         5       26       75       A0        1
LENGTH      SR      HOUR   MINUTE      SEC
  3001      10        22       21       43

  NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
    47     114         5       26       75       B1        1
LENGTH      SR      HOUR   MINUTE      SEC
  3001      10        22       21       43

  NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
    47     114         5       26       75       B2        1
LENGTH      SR      HOUR   MINUTE      SEC
  3001      10        22       21       43

  NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
    47     114         5       26       75       B3        1
LENGTH      SR      HOUR   MINUTE      SEC
  3001      10        22       21       43

  NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
    47     114         5       26       75       B4        1
LENGTH      SR      HOUR   MINUTE      SEC
  3001      10        22       21       43

  NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
    47     114         5       26       75       C1        1
LENGTH      SR      HOUR   MINUTE      SEC
  3001      10        22       21       43
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      NREC        ID      MONTH        DAY      YEAR       SITE     NCHAN
        47       114          5         26        75         C2         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         22         21        43

      NREC        ID      MONTH        DAY      YEAR       SITE     NCHAN
        47       114          5         26        75         C3         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         22         21        43

      NREC        ID      MONTH        DAY      YEAR       SITE     NCHAN
        47       114          5         26        75         C4         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         22         21        43

      NREC        ID      MONTH        DAY      YEAR       SITE     NCHAN
        47       114          5         26        75         D1         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         22         21        43

      NREC        ID      MONTH        DAY      YEAR       SITE     NCHAN
        47       114          5         26        75         D2         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         22         21        43

      NREC        ID      MONTH        DAY      YEAR       SITE     NCHAN
        47       114          5         26        75         D3         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         22         21        43

      NREC        ID      MONTH        DAY      YEAR       SITE     NCHAN
        47       114          5         26        75         D4         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         22         21        43

      NREC        ID      MONTH        DAY      YEAR       SITE     NCHAN
        47       115          5         21        75         A0         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         14         15        36

      NREC        ID      MONTH        DAY      YEAR       SITE     NCHAN
        47       115          5         21        75         B1         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         14         15        36

      NREC        ID      MONTH        DAY      YEAR       SITE     NCHAN
        47       115          5         21        75         B2         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         14         15        36

      NREC        ID      MONTH        DAY      YEAR       SITE     NCHAN
        47       115          5         21        75         B3         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         14         15        36

      NREC        ID      MONTH        DAY      YEAR       SITE     NCHAN
        47       115          5         21        75         B4         1
    LENGTH        SR       HOUR     MINUTE       SEC
      3001        10         14         15        36
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  NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
    47     115         5        21       75        C1        1
 LENGTH     SR      HOUR    MINUTE      SEC
  3001      10        14        15       36

  NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
    47     115         5        21       75        C2        1
 LENGTH     SR      HOUR    MINUTE      SEC
  3001      10        14        15       36

  NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
    47     115         5        21       75        C3        1
 LENGTH     SR      HOUR    MINUTE      SEC
  3001      10        14        15       36

  NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
    47     115         5        21       75        C4        1
 LENGTH     SR      HOUR    MINUTE      SEC
  3001      10        14        15       36

  NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
    47     115         5        21       75        D1        1
 LENGTH     SR      HOUR    MINUTE      SEC
  3001      10        14        15       36

  NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
    47     115         5        21       75        D2        1
 LENGTH     SR      HOUR    MINUTE      SEC
  3001      10        14        15       36

  NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
    47     115         5        21       75        D3        1
 LENGTH     SR      HOUR    MINUTE      SEC
  3001      10        14        15       36

  NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
    47     115         5        21       75        D4        1
 LENGTH     SR      HOUR    MINUTE      SEC
  3001      10        14        15       36

  NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
    47     116         5        20       75        A0        1
 LENGTH     SR      HOUR    MINUTE      SEC
  3001      10         1        13        4

  NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
    47     116         5        20       75        B1        1
 LENGTH     SR      HOUR    MINUTE      SEC
  3001      10         1        13        4

  NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
    47     116         5        20       75        B2        1
 LENGTH     SR      HOUR    MINUTE      SEC
  3001      10         1        13        4

  NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
    47     116         5        20       75        B3        1
 LENGTH     SR      HOUR    MINUTE      SEC
  3001      10         1        13        4
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       NREC        ID      MONTH          DAY       YEAR        SITE      NCHAN
         47       116          5           20         75          B4          1
     LENGTH        SR       HOUR       MINUTE        SEC
       3001        10          1           13          4

       NREC        ID      MONTH          DAY       YEAR        SITE      NCHAN
         47       116          5           20         75          C1          1
     LENGTH        SR       HOUR       MINUTE        SEC
       3001        10          1           13          4

       NREC        ID      MONTH          DAY       YEAR        SITE      NCHAN
         47       116          5           20         75          C2          1
     LENGTH        SR       HOUR       MINUTE        SEC
       3001        10          1           13          4

       NREC        ID      MONTH          DAY       YEAR        SITE      NCHAN
         47       116          5           20         75          C3          1
     LENGTH        SR       HOUR       MINUTE        SEC
       3001        10          1           13          4

       NREC        ID      MONTH          DAY       YEAR        SITE      NCHAN
         47       116          5           20         75          C4          1
     LENGTH        SR       HOUR       MINUTE        SEC
       3001        10          1           13          4

       NREC        ID      MONTH          DAY       YEAR        SITE      NCHAN
         47       116          5           20         75          D1          1
     LENGTH        SR       HOUR       MINUTE        SEC
       3001        10          1           13          4

       NREC        ID      MONTH          DAY       YEAR        SITE      NCHAN
         47       116          5           20         75          D2          1
     LENGTH        SR       HOUR       MINUTE        SEC
       3001        10          1           13          4

       NREC        ID      MONTH          DAY       YEAR        SITE      NCHAN
         47       116          5           20         75          D3          1
     LENGTH        SR       HOUR       MINUTE        SEC
       3001        10          1           13          4

       NREC        ID      MONTH          DAY       YEAR        SITE      NCHAN
         47       116          5           20         75          D4          1
     LENGTH        SR       HOUR       MINUTE        SEC
       3001        10          1           13          4

       NREC        ID      MONTH          DAY       YEAR        SITE      NCHAN
         47       117          5           19         75          A0          1
     LENGTH        SR       HOUR       MINUTE        SEC
       3001        10          3           36         47

       NREC        ID      MONTH          DAY       YEAR        SITE      NCHAN
         47       117          5           19         75          B1          1
     LENGTH        SR       HOUR       MINUTE        SEC
       3001        10          3           36         47

       NREC        ID      MONTH          DAY       YEAR        SITE      NCHAN
         47       117          5           19         75          B2          1
     LENGTH        SR       HOUR       MINUTE        SEC
       3001        10          3           36         47
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    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       117          5         19        75        B3         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          3         36        47

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       117          5         19        75        B4         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          3         36        47

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       117          5         19        75        C1         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          3         36        47

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       117          5         19        75        C2         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          3         36        47

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       117          5         19        75        C3         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          3         36        47

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       117          5         19        75        C4         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          3         36        47

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       117          5         19        75        D1         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          3         36        47

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       117          5         19        75        D2         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          3         36        47

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       117          5         19        75        D3         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          3         36        47

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       117          5         19        75        D4         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          3         36        47

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       118          5         18        75        A0         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          6          7        45

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       118          5         18        75        B1         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10          6          7        45
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      NREC       ID     MONTH        DAY       YEAR       SITE      NCHAN
        47      118         5         18         75         B2          1
    LENGTH       SR      HOUR     MINUTE        SEC
      3001       10         6          7         45

      NREC       ID     MONTH        DAY       YEAR       SITE      NCHAN
        47      118         5         18         75         B3          1
    LENGTH       SR      HOUR     MINUTE        SEC
      3001       10         6          7         45

      NREC       ID     MONTH        DAY       YEAR       SITE      NCHAN
        47      118         5         18         75         B4          1
    LENGTH       SR      HOUR     MINUTE        SEC
      3001       10         6          7         45

      NREC       ID     MONTH        DAY       YEAR       SITE      NCHAN
        47      118         5         18         75         C1          1
    LENGTH       SR      HOUR     MINUTE        SEC
      3001       10         6          7         45

      NREC       ID     MONTH        DAY       YEAR       SITE      NCHAN
        47      118         5         18         75         C2          1
    LENGTH       SR      HOUR     MINUTE        SEC
      3001       10         6          7         45

      NREC       ID     MONTH        DAY       YEAR       SITE      NCHAN
        47      118         5         18         75         C3          1
    LENGTH       SR      HOUR     MINUTE        SEC
      3001       10         6          7         45

      NREC       ID     MONTH        DAY       YEAR       SITE      NCHAN
        47      118         5         18         75         C4          1
    LENGTH       SR      HOUR     MINUTE        SEC
      3001       10         6          7         45

      NREC       ID     MONTH        DAY       YEAR       SITE      NCHAN
        47      118         5         18         75         D1          1
    LENGTH       SR      HOUR     MINUTE        SEC
      3001       10         6          7         45

      NREC       ID     MONTH        DAY       YEAR       SITE      NCHAN
        47      118         5         18         75         D2          1
    LENGTH       SR      HOUR     MINUTE        SEC
      3001       10         6          7         45

      NREC       ID     MONTH        DAY       YEAR       SITE      NCHAN
        47      118         5         18         75         D3          1
    LENGTH       SR      HOUR     MINUTE        SEC
      3001       10         6          7         45

      NREC       ID     MONTH        DAY       YEAR       SITE      NCHAN
        47      118         5         18         75         D4          1
    LENGTH       SR      HOUR     MINUTE        SEC
      3001       10         6          7         45

      NREC       ID     MONTH        DAY       YEAR       SITE      NCHAN
        47      119         5         17         75         A0          1
    LENGTH       SR      HOUR     MINUTE        SEC
      3001       10         0         19         51
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     NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
       47       119         5         17        75        B1         1
   LENGTH        SR      HOUR     MINUTE       SEC
     3001        10         0         19        51

     NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
       47       119         5         17        75        B2         1
   LENGTH        SR      HOUR     MINUTE       SEC
     3001        10         0         19        51

     NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
       47       119         5         17        75        B3         1
   LENGTH        SR      HOUR     MINUTE       SEC
     3001        10         0         19        51

     NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
       47       119         5         17        75        B4         1
   LENGTH        SR      HOUR     MINUTE       SEC
     3001        10         0         19        51

     NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
       47       119         5         17        75        C1         1
   LENGTH        SR      HOUR     MINUTE       SEC
     3001        10         0         19        51

     NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
       47       119         5         17        75        C2         1
   LENGTH        SR      HOUR     MINUTE       SEC
     3001        10         0         19        51

     NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
       47       119         5         17        75        C3         1
   LENGTH        SR      HOUR     MINUTE       SEC
     3001        10         0         19        51

     NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
       47       119         5         17        75        C4         1
   LENGTH        SR      HOUR     MINUTE       SEC
     3001        10         0         19        51

     NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
       47       119         5         17        75        D1         1
   LENGTH        SR      HOUR     MINUTE       SEC
     3001        10         0         19        51

     NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
       47       119         5         17        75        D2         1
   LENGTH        SR      HOUR     MINUTE       SEC
     3001        10         0         19        51

     NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
       47       119         5         17        75        D3         1
   LENGTH        SR      HOUR     MINUTE       SEC
     3001        10         0         19        51

     NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
       47       119         5         17        75        D4         1
   LENGTH        SR      HOUR     MINUTE       SEC
     3001        10         0         19        51
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    NREC        ID     MONTH       DAY     YEAR       SITE     NCHAN
     47        120         5        16       75         A0         1
  LENGTH        SR      HOUR    MINUTE      SEC
    3001        10         1        36       26

    NREC        ID     MONTH       DAY     YEAR       SITE     NCHAN
     47        120         5        16       75         B1         1
  LENGTH        SR      HOUR    MINUTE      SEC
    3001        10         1        36       26

    NREC        ID     MONTH       DAY     YEAR       SITE     NCHAN
     47        120         5        16       75         B2         1
  LENGTH        SR      HOUR    MINUTE      SEC
    3001        10         1        36       26

    NREC        ID     MONTH       DAY     YEAR       SITE     NCHAN
     47        120         5        16       75         B3         1
  LENGTH        SR      HOUR    MINUTE      SEC
    3001        10         1        36       26

    NREC        ID     MONTH       DAY     YEAR       SITE     NCHAN
     47        120         5        16       75         B4         1
  LENGTH        SR      HOUR    MINUTE      SEC
    3001        10         1        36       26

    NREC        ID     MONTH       DAY     YEAR       SITE     NCHAN
     47        120         5        16       75         C1         1
  LENGTH        SR      HOUR    MINUTE      SEC
    3001        10         1        36       26

    NREC        ID     MONTH       DAY     YEAR       SITE     NCHAN
     47        120         5        16       75         C2         1
  LENGTH        SR      HOUR    MINUTE      SEC
    3001        10         1        36       26

    NREC        ID     MONTH       DAY     YEAR       SITE     NCHAN
     47        120         5        16       75         C3         1
  LENGTH        SR      HOUR    MINUTE      SEC
    3001        10         1        36       26

    NREC        ID     MONTH       DAY     YEAR       SITE     NCHAN
     47        120         5        16       75         C4         1
  LENGTH        SR      HOUR    MINUTE      SEC
    3001        10         1        36       26

    NREC        ID     MONTH       DAY     YEAR       SITE     NCHAN
     47        120         5        16       75         D1         1
  LENGTH        SR      HOUR    MINUTE      SEC
    3001        10         1        36       26

    NREC        ID     MONTH       DAY     YEAR       SITE     NCHAN
     47        120         5        16       75         D2         1
  LENGTH        SR      HOUR    MINUTE      SEC
    3001        10         1        36       26

    NREC        ID     MONTH       DAY     YEAR       SITE     NCHAN
     47        120         5        16       75         D3         1
  LENGTH        SR      HOUR    MINUTE      SEC
    3001        10         1        36       26
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   NREC      ID     MONTH      DAY      YEAR      SITE     NCHAN
    47      120        5        16        75       D4          1
  LENGTH     SR       HOUR    MINUTE     SEC
   3001      10        1        36        26

   NREC      ID     MONTH      DAY      YEAR      SITE     NCHAN
    47      121        5        14        75       A0          1
  LENGTH     SR       HOUR    MINUTE     SEC
   3001      10       22        34        27

   NREC      ID     MONTH      DAY      YEAR      SITE     NCHAN
    47      121        5        14        75       B1          1
  LENGTH     SR       HOUR    MINUTE     SEC
   3001      10       22        34        27

   NREC      ID     MONTH      DAY      YEAR      SITE     NCHAN
    47      121        5        14        75       B2          1
  LENGTH     SR       HOUR    MINUTE     SEC
   3001      10       22        34        27

   NREC      ID     MONTH      DAY      YEAR      SITE     NCHAN
    47      121        5        14        75       B3          1
  LENGTH     SR       HOUR    MINUTE     SEC
   3001      10       22        34        27

   NREC      ID     MONTH      DAY      YEAR      SITE     NCHAN
    47      121        5        14        75       B4          1
  LENGTH     SR       HOUR    MINUTE     SEC
   3001      10       22        34        27

   NREC      ID     MONTH      DAY      YEAR      SITE     NCHAN
    47      121        5        14        75       C1          1
  LENGTH     SR       HOUR    MINUTE     SEC
   3001      10       22        34        27

   NREC      ID     MONTH      DAY      YEAR      SITE     NCHAN
    47      121        5        14        75       C2          1
  LENGTH     SR       HOUR    MINUTE     SEC
   3001      10       22        34        27

   NREC      ID     MONTH      DAY      YEAR      SITE     NCHAN
    47      121        5        14        75       C3          1
  LENGTH     SR       HOUR    MINUTE     SEC
   3001      10       22        34        27

   NREC      ID     MONTH      DAY      YEAR      SITE     NCHAN
    47      121        5        14        75       C4          1
  LENGTH     SP       HOUR    MINUTE     SEC
   3001      10       22        34        27

   NREC      ID     MONTH      DAY      YEAR      SITE     NCHAN
    47      121        5        14        75       D1          1
  LENGTH     SR       HOUR    MINUTE     SEC
   3001      10       22        34        27

   NREC      ID     MONTH      DAY      YEAR      SITE     NCHAN
    47      121        5        14        75       D2          1
  LENGTH     SR       HOUR    MINUTE     SEC
   3001      10       22        34        27
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     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47     121         5        14        75        D3         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        22        34        27

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47     121         5        14        75        D4         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10        22        34        27

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       51     122         5        13        75        A0         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3201      10         0        33        20

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47     122         5        13        75        B1         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10         0        33        20

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47     122         5        13        75        B2         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10         0        33        20

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47     122         5        13        75        B3         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10         0        33        20

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47     122         5        13        75        B4         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10         0        33        20

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47     122         5        13        75        C1         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10         0        33        20

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47     122         5        13        75        C2         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10         0        33        20

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47     122         5        13        75        C3         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10         0        33        20

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       47     122         5        13        75        C4         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3001      10         0        33        20

     NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
       51     122         5        13        75        D1         1
   LENGTH      SR      HOUR    MINUTE       SEC
     3201      10         0        33        20
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    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      51      122         5        13        75        D2         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3201       10         0        33        20

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      51      122         5        13        75        D3         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3201       10         0        33        20

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      51      122         5        13        75        D4         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3201       10         0        33        20

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      123         5        13        75        A0         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10        12        36         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      123         5        13        75        B1         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10        12        36         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      123         5        13        75        B2         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10        12        36         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      123         5        13        75        B3         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10        12        36         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      123         5        13        75        B4         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10        12        36         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      123         5        13        75        C1         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10        12        36         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      123         5        13        75        C2         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10        12        36         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      123         5        13        75        C3         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10        12        36         8

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      123         5        13        75        C4         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10        12        36         8
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        NREC       ID      MONTH        DAY       YEAR       SITE      NCHAN
          47      123          5         13         75         D1          1
      LENGTH       SR       HOUR     MINUTE        SEC
        3001       10         12         36          8

        NREC       ID      MONTH        DAY       YEAR       SITE      NCHAN
          47      123          5         13         75         D2          1
      LENGTH       SR       HOUR     MINUTE        SEC
        3001       10         12         36          8

        NREC       ID      MONTH        DAY       YEAR       SITE      NCHAN
          47      123          5         13         75         D3          1
      LENGTH       SR       HOUR     MINUTE        SEC
        3001       10         12         36          8

        NREC       ID      MONTH        DAY       YEAR       SITE      NCHAN
          47      123          5         13         75         D4          1
      LENGTH       SR       HOUR     MINUTE        SEC
        3001       10         12         36          8

        NREC       ID      MONTH        DAY       YEAR       SITE      NCHAN
          47      124          5         12         75         A0          1
      LENGTH       SR       HOUR     MINUTE        SEC
        3001       10         12          1         36

        NREC       ID      MONTH        DAY       YEAR       SITE      NCHAN
          47      124          5         12         75         B1          1
      LENGTH       SR       HOUR     MINUTE        SEC
        3001       10         12          1         36

        NREC       ID      MONTH        DAY       YEAR       SITE      NCHAN
          47      124          5         12         75         B2          1
      LENGTH       SR       HOUR     MINUTE        SEC
        3001       10         12          1         36

        NREC       ID      MONTH        DAY       YEAR       SITE      NCHAN
          47      124          5         12         75         B3          1
      LENGTH       SR       HOUR     MINUTE        SEC
        3001       10         12          1         36

        NREC       ID      MONTH        DAY       YEAR       SITE      NCHAN
          47      124          5         12         75         B4          1
      LENGTH       SR       HOUR     MINUTE        SEC
        3001       10         12          1         36

        NREC       ID      MONTH        DAY       YEAR       SITE      NCHAN
          47      124          5         12         75         C1          1
      LENGTH       SR       HOUR     MINUTE        SEC
        3001       10         12          1         36

        NREC       ID      MONTH        DAY       YEAR       SITE      NCHAN
          47      124          5         12         75         C2          1
      LENGTH       SR       HOUR     MINUTE        SEC
        3001       10         12          1         36

        NREC       ID      MONTH        DAY       YEAR       SITE      NCHAN
          47      124          5         12         75         C3          1
      LENGTH       SR       HOUR     MINUTE        SEC
        3001       10         12          1         36
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   NREC      ID     MONTH       DAY      YEAR     SITE     NCHAN
     47     124         5        12        75       C4         1
 LENGTH      SR      HOUR    MINUTE       SEC
   3001      10        12         1        36

   NREC      ID     MONTH       DAY      YEAR     SITE     NCHAN
     47     124         5        12        75       D1         1
 LENGTH      SR      HOUR    MINUTE       SEC
   3001      10        12         1        36

   NREC      ID     MONTH       DAY      YEAR     SITE     NCHAN
     47     124         5        12        75       D2         1
 LENGTH      SR      HOUR    MINUTE       SEC
   3001      10        12         1        36

   NREC      ID     MONTH       DAY      YEAR     SITE     NCHAN
     47     124         5        12        75       D3         1
 LENGTH      SR      HOUR    MINUTE       SEC
   3001      10        12         1        36

   NREC      ID     MONTH       DAY      YEAR     SITE     NCHAN
     47     124         5        12        75       D4         1
 LENGTH      SR      HOUR    MINUTE       SEC
   3001      10        12         1        36

   NREC      ID     MONTH       DAY      YEAR     SITE     NCHAN
     47     125         5        11        75       A0         1
 LENGTH      SR      HOUR    MINUTE       SEC
   3001      10        12        30        10

   NREC      ID     MONTH       DAY      YEAR     SITE     NCHAN
     47     125         5        11        75       B1         1
 LENGTH      SR      HOUR    MINUTE       SEC
   3001      10        12        30        10

   NREC      ID     MONTH       DAY      YEAR     SITE     NCHAN
     47     125         5        11        75       B2         1
 LENGTH      SR      HOUR    MINUTE       SEC
   3001      10        12        30        10

   NREC      ID     MONTH       DAY      YEAR     SITE     NCHAN
     47     125         5        11        75       B3         1
 LENGTH      SR      HOUR    MINUTE       SEC
   3001      10        12        30        10

   NREC      ID     MONTH       DAY      YEAR     SITE     NCHAN
     47     125         5        11        75       B4         1
 LENGTH      SR      HOUR    MINUTE       SEC
   3001      10        12        30        10

   NREC      ID     MONTH       DAY      YEAR     SITE     NCHAN
     47     125         5        11        75       C1         1
 LENGTH      SR      HOUR    MINUTE       SEC
   3001      10        12        30        10

   NREC      ID     MONTH       DAY      YEAR     SITE     NCHAN
     47     125         5        11        75       C2         1
 LENGTH      SR      HOUR    MINUTE       SEC
   3001      10        12        30        10
   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
     47     125         5        11       75        C3         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10        12        30       10

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
     47     125         5        11       75        C4         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10        12        30       10

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
     47     125         5        11       75        D1         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10        12        30       10

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
     47     125         5        11       75        D2         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10        12        30       10

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
     47     125         5        11       75        D3         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10        12        30       10

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
     47     125         5        11       75        D4         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10        12        30       10

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
     47     126         5        11       75        A0         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10        23        22       21

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
     47     126         5        11       75        B1         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10        23        22       21

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
     47     126         5        11       75        B2         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10        23        22       21

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
     47     126         5        11       75        B3         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10        23        22       21

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
     47     126         5        11       75        B4         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10        23        22       21

   NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
     47     126         5        11       75        C1         1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10        23        22       21
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    NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
      47      126         5         11        75        C2         1
  LENGTH       SR      HOUR     MINUTE       SEC
    3001       10        23         22        21

    NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
      47      126         5         11        75        C3         1
  LENGTH       SR      HOUR     MINUTE       SEC
    3001       10        23         22        21

    NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
      47      126         5         11        75        C4         1
  LENGTH       SR      HOUR     MINUTE       SEC
    3001       10        23         22        21

    NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
      47      126         5         11        75        D1         1
  LENGTH       SR      HOUR     MINUTE       SEC
    3001       10        23         22        21

    NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
      47      126         5         11        75        D2         1
  LENGTH       SR      HOUR     MINUTE       SEC
    3001       10        23         22        21

    NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
      47      126         5         11        75        D3         1
  LENGTH       SR      HOUR     MINUTE       SEC
    3001       10        23         22        21

    NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
      47      126         5         11        75        D4         1
  LENGTH       SR      HOUR     MINUTE       SEC
    3001       10        23         22        21

    NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
      47      127         5          7        75        A0         1
  LENGTH       SR      HOUR     MINUTE       SEC
    3001       10        17         54        56

    NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
      47      127         5          7        75        B1         1
  LENGTH       SR      HOUR     MINUTE       SEC
    3001       10        17         54        56

    NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
      47      127         5          7        75        B2         1
  LENGTH       SR      HOUR     MINUTE       SEC
    3001       10        17         54        56

    NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
      47      127         5          7        75        B3         1
  LENGTH       SR      HOUR     MINUTE       SEC
    3001       10        17         54        56

    NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
      47      127         5          7        75        B4         1
  LENGTH       SR      HOUR     MINUTE       SEC
    3001       10        17         54        56
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   NREC     ID     MONTH     DAY    YEAR    SITE   NCHAN
     47    127         5       7      75      C1       1
 LENGTH     SR      HOUR  MINUTE     SEC
   3001     10        17      54      56

   NREC     ID     MONTH     DAY    YEAR    SITE   NCHAN
     47    127         5       7      75      C2       1
 LENGTH     SR      HOUR  MINUTE     SEC
   3001     10        17      54      56

   NREC     ID     MONTH     DAY    YEAR    SITE   NCHAN
     47    127         5       7      75      C3       1
 LENGTH     SR      HOUR  MINUTE     SEC
   3001     10        17      54      56

   NREC     ID     MONTH     DAY    YEAR    SITE   NCHAN
     47    127         5       7      75      C4       1
 LENGTH     SR      HOUR  MINUTE     SEC
   3001     10        17      54      56

   NREC     ID     MONTH     DAY    YEAR    SITE   NCHAN
     47    127         5       7      75      D1       1
 LENGTH     SR      HOUR  MINUTE     SEC
   3001     10        17      54      56

   NREC     ID     MONTH     DAY    YEAR    SITE   NCHAN
     47    127         5       7      75      D2       1
 LENGTH     SR      HOUR  MINUTE     SEC
   3001     10        17      54      56

   NREC     ID     MONTH     DAY    YEAR    SITE   NCHAN
     47    127         5       7      75      D3       1
 LENGTH     SR      HOUR  MINUTE     SEC
   3001     10        17      54      56

   NREC     ID     MONTH     DAY    YEAR    SITE   NCHAN
     47    127         5       7      75      D4       1
 LENGTH     SR      HOUR  MINUTE     SEC
   3001     10        17      54      56

   NREC     ID     MONTH     DAY    YEAR    SITE   NCHAN
     47    128         5       5      75      A0       1
 LENGTH     SR      HOUR  MINUTE     SEC
   3001     10         5      30      26

   NREC     ID     MONTH     DAY    YEAR    SITE   NCHAN
     47    128         5       5      75      B1       1
 LENGTH     SR      HOUR  MINUTE     SEC
   3001     10         5      30      26

   NREC     ID     MONTH     DAY    YEAR    SITE   NCHAN
     47    128         5       5      75      B2       1
 LENGTH     SR      HOUR  MINUTE     SEC
   3001     10         5      30      26

   NREC     ID     MONTH     DAY    YEAR    SITE   NCHAN
     47    128         5       5      75      B3       1
 LENGTH     SR      HOUR  MINUTE     SEC
   3001     10         5      30      26
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     NREC        ID     MONTH        DAY       YEAR       SITE     NCHAN
       47       128         5          5         75         B4         1
    LENGTH       SR      HOUR     MINUTE        SEC
     3001        10         5         30         26

     NREC        ID     MONTH        DAY       YEAR       SITE     NCHAN
       47       128         5          5         75         C1         1
    LENGTH       SR      HOUR     MINUTE        SEC
     3001        10         5         30         26

     NREC        ID     MONTH        DAY       YEAR       SITE     NCHAN
       47       128         5          5         75         C2         1
    LENGTH       SR      HOUR     MINUTE        SEC
     3001        10         5         30         26

     NREC        ID     MONTH        DAY       YEAR       SITE     NCHAN
       47       128         5          5         75         C3         1
    LENGTH       SR      HOUR     MINUTE        SEC
     3001        10         5         30         26

     NREC        ID     MONTH        DAY       YEAR       SITE     NCHAN
       47       128         5          5         75         C4         1
    LENGTH       SR      HOUR     MINUTE        SEC
     3001        10         5         30         26

     NREC        ID     MONTH        DAY       YEAR       SITE     NCHAN
       47       128         5          5         75         D1         1
    LENGTH       SR      HOUR     MINUTE        SEC
     3001        10         5         30         26

     NREC        ID     MONTH        DAY       YEAR       SITE     NCHAN
       47       128         5          5         75         D2         1
    LENGTH       SR      HOUR     MINUTE        SEC
     3001        10         5         30         26

     NREC        ID     MONTH        DAY       YEAR       SITE     NCHAN
       47       128         5          5         75         D3         1
    LENGTH       SR      HOUR     MINUTE        SEC
     3001        10         5         30         26

     NREC        ID     MONTH        DAY       YEAR       SITE     NCHAN
       47       128         5          5         75         D4         1
    LENGTH       SR      HOUR     MINUTE        SEC
     3001        10         5         30         26

     NREC        ID     MONTH        DAY       YEAR       SITE     NCHAN
       47       129         5          3         75         A0         1
    LENGTH       SR      HOUR     MINUTE        SEC
     3001        10         5         24         32

     NREC        ID     MONTH        DAY       YEAR       SITE     NCHAN
       47       129         5          3         75         B1         1
    LENGTH       SR      HOUR     MINUTE        SEC
     3001        10         5         24         32

     NREC        ID     MONTH        DAY       YEAR       SITE     NCHAN
       47       129         5          3         75         B2         1
    LENGTH       SR      HOUR     MINUTE        SEC
     3001        10         5         24         32
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      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       129          5           3        75         B3          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          24        32

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       129          5           3        75         B4          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          24        32

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       129          5           3        75         C1          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          24        32

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       129          5           3        75         C2          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          24        32

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       129          5           3        75         C3          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          24        32

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       129          5           3        75         C4          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          24        32

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       129          5           3        75         D1          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          24        32

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       129          5           3        75         D2          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          24        32

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       129          5           3        75         D3          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          24        32

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       129          5           3        75         D4          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          5          24        32

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       131          4          30        75         A0          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          4          39        47

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47       131          4          30        75         B1          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3001        10          4          39        47
    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      131         4        30        75        B2         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10         4        39        47

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      131         4        30        75        B3         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10         4        39        47

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      131         4        30        75        B4         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10         4        39        47

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      131         4        30        75        C1         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10         4        39        47

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      131         4        30        75        C2         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10         4        39        47

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      131         4        30        75        C3         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10         4        39        47

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      131         4        30        75        C4         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10         4        39        47

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      131         4        30        75        D1         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10         4        39        47

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      131         4        30        75        D2         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10         4        39        47

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      131         4        30        75        D3         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10         4        39        47

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      131         4        30        75        D4         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10         4        39        47

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      132         4        30        75        A0         1
   LENGTH      SR      HOUR    MINUTE       SEC
    3001       10         4        53        43
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      NREC       ID     MONTH        DAY      YEAR       SITE     NCHAN
        47      132         4         30        75         B1         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3001       10         4         53        43

      NREC       ID     MONTH        DAY      YEAR       SITE     NCHAN
        47      132         4         30        75         B2         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3001       10         4         53        43

      NREC       ID     MONTH        DAY      YEAR       SITE     NCHAN
        47      132         4         30        75         B3         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3001       10         4         53        43

      NREC       ID     MONTH        DAY      YEAR       SITE     NCHAN
        47      132         4         30        75         B4         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3001       10         4         53        43

      NREC       ID     MONTH        DAY      YEAR       SITE     NCHAN
        47      132         4         30        75         C1         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3001       10         4         53        43

      NREC       ID     MONTH        DAY      YEAR       SITE     NCHAN
        47      132         4         30        75         C2         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3001       10         4         53        43

      NREC       ID     MONTH        DAY      YEAR       SITE     NCHAN
        47      132         4         30        75         C3         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3001       10         4         53        43

      NREC       ID     MONTH        DAY      YEAR       SITE     NCHAN
        47      132         4         30        75         C4         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3001       10         4         53        43

      NREC       ID     MONTH        DAY      YEAR       SITE     NCHAN
        47      132         4         30        75         D1         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3001       10         4         53        43

      NREC       ID     MONTH        DAY      YEAR       SITE     NCHAN
        47      132         4         30        75         D2         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3001       10         4         53        43

      NREC       ID     MONTH        DAY      YEAR       SITE     NCHAN
        47      132         4         30        75         D3         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3001       10         4         53        43

      NREC       ID     MONTH        DAY      YEAR       SITE     NCHAN
        47      132         4         30        75         D4         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3001       10         4         53        43
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     NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
       47      133         4       29       75        A0         1
   LENGTH       SR      HOUR   MINUTE      SEC
     3001       10         3       19       32

     NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
       47      133         4       29       75        B1         1
   LENGTH       SR      HOUR   MINUTE      SEC
     3001       10         3       19       32

     NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
       47      133         4       29       75        B2         1
   LENGTH       SR      HOUR   MINUTE      SEC
     3001       10         3       19       32

     NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
       47      133         4       29       75        B3         1
   LENGTH       SR      HOUR   MINUTE      SEC
     3001       10         3       19       32

     NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
       47      133         4       29       75        B4         1
   LENGTH       SR      HOUR   MINUTE      SEC
     3001       10         3       19       32

     NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
       47      133         4       29       75        C1         1
   LENGTH       SR      HOUR   MINUTE      SEC
     3001       10         3       19       32

     NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
       47      133         4       29       75        C2         1
   LENGTH       SR      HOUR   MINUTE      SEC
     3001       10         3       19       32

     NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
       47      133         4       29       75        C3         1
   LENGTH       SR      HOUR   MINUTE      SEC
     3001       10         3       19       32

     NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
       47      133         4       29       75        C4         1
   LENGTH       SR      HOUR   MINUTE      SEC
     3001       10         3       19       32

     NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
       47      133         4       29       75        D1         1
   LENGTH       SR      HOUR   MINUTE      SEC
     3001       10         3       19       32

     NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
       47      133         4       29       75        D2         1
   LENGTH       SR      HOUR   MINUTE      SEC
     3001       10         3       19       32

     NREC       ID     MONTH      DAY     YEAR      SITE     NCHAN
       47      133         4       29       75        D3         1
   LENGTH       SR      HOUR   MINUTE      SEC
     3001       10         3       19       32
     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      133         4        29       75        D4         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3001      10         3        19       32

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      134         4        29       75        A0         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3001      10        15        47       47

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      134         4        29       75        B1         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3001      10        15        47       47

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      134         4        29       75        B2         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3001      10        15        47       47

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      134         4        29       75        B3         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3001      10        15        47       47

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      134         4        29       75        B4         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3001      10        15        47       47

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      134         4        29       75        C1         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3001      10        15        47       47

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      134         4        29       75        C2         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3001      10        15        47       47

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      134         4        29       75        C3         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3001      10        15        47       47

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      134         4        29       75        C4         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3001      10        15        47       47

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      134         4        29       75        D1         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3001      10        15        47       47

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      134         4        29       75        D2         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3001      10        15        47       47
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    NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       134         4        29        75        D3         1
  LENGTH        SR      HOUR    MINUTE       SEC
    3001        10        15        47        47

    NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       134         4        29        75        D4         1
  LENGTH        SR      HOUR    MINUTE       SEC
    3001        10        15        47        47

    NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       135         4        28        75        A0         1
  LENGTH        SR      HOUR    MINUTE       SEC
    3001        10         2        12        53

    NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       135         4        28        75        B1         1
  LENGTH        SR      HOUR    MINUTE       SEC
    3001        10         2        12        53

    NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       135         4        28        75        B2         1
  LENGTH        SR      HOUR    MINUTE       SEC
    3001        10         2        12        53

    NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       135         4        28        75        B3         1
  LENGTH        SR      HOUR    MINUTE       SEC
    3001        10         2        12        53

    NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       135         4        28        75        B4         1
  LENGTH        SR      HOUR    MINUTE       SEC
    3001        10         2        12        53

    NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       135         4        28        75        C1         1
  LENGTH        SR      HOUR    MINUTE       SEC
    3001        10         2        12        53

    NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       135         4        28        75        C2         1
  LENGTH        SR      HOUR    MINUTE       SEC
    3001        10         2        12        53

    NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       135         4        28        75        C3         1
  LENGTH        SR      HOUR    MINUTE       SEC
    3001        10         2        12        53

    NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       135         4        28        75        C4         1
  LENGTH        SR      HOUR    MINUTE       SEC
    3001        10         2        12        53

    NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
      47       135         4        28        75        D1         1
  LENGTH        SR      HOUR    MINUTE       SEC
    3001        10         2        12        53
    NREC      ID      MONTH        DAY      YEAR      SITE      NCHAN
      47     135          4         28        75        D2          1
  LENGTH      SR       HOUR     MINUTE       SEC
    3001      10          2         12        53

    NREC      ID      MONTH        DAY      YEAR      SITE      NCHAN
      47     135          4         28        75        D3          1
  LENGTH      SR       HOUR     MINUTE       SEC
    3001      10          2         12        53

    NREC      ID      MONTH        DAY      YEAR      SITE      NCHAN
      47     135          4         28        75        D4          1
  LENGTH      SR       HOUR     MINUTE       SEC
    3001      10          2         12        53

    NREC      ID      MONTH        DAY      YEAR      SITE      NCHAN
      47     136          4         28        75        A0          1
  LENGTH      SR       HOUR     MINUTE       SEC
    3001      10         11         18        16

    NREC      ID      MONTH        DAY      YEAR      SITE      NCHAN
      47     136          4         28        75        B1          1
  LENGTH      SR       HOUR     MINUTE       SEC
    3001      10         11         18        16

    NREC      ID      MONTH        DAY      YEAR      SITE      NCHAN
      47     136          4         28        75        B2          1
  LENGTH      SR       HOUR     MINUTE       SEC
    3001      10         11         18        16

    NREC      ID      MONTH        DAY      YEAR      SITE      NCHAN
      47     136          4         28        75        B3          1
  LENGTH      SR       HOUR     MINUTE       SEC
    3001      10         11         18        16

    NREC      ID      MONTH        DAY      YEAR      SITE      NCHAN
      47     136          4         28        75        B4          1
  LENGTH      SR       HOUR     MINUTE       SEC
    3001      10         11         18        16

    NREC      ID      MONTH        DAY      YEAR      SITE      NCHAN
      47     136          4         28        75        C1          1
  LENGTH      SR       HOUR     MINUTE       SEC
    3001      10         11         18        16

    NREC      ID      MONTH        DAY      YEAR      SITE      NCHAN
      47     136          4         28        75        C2          1
  LENGTH      SR       HOUR     MINUTE       SEC
    3001      10         11         18        16

    NREC      ID      MONTH        DAY      YEAR      SITE      NCHAN
      47     136          4         28        75        C3          1
  LENGTH      SR       HOUR     MINUTE       SEC
    3001      10         11         18        16

    NREC      ID      MONTH        DAY      YEAR      SITE      NCHAN
      47     136          4         28        75        C4          1
  LENGTH      SR       HOUR     MINUTE       SEC
    3001      10         11         18        16
    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       136          4         28        75        D1         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10         11         18        16

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       136          4         28        75        D2         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10         11         18        16

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       136          4         28        75        D3         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10         11         18        16

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       136          4         28        75        D4         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10         11         18        16

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       137          4         28        75        A0         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10         12         10         7

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       137          4         28        75        B1         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10         12         10         7

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       137          4         28        75        B2         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10         12         10         7

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       137          4         28        75        B3         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10         12         10         7

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       137          4         28        75        B4         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10         12         10         7

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       137          4         28        75        C1         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10         12         10         7

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       137          4         28        75        C2         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10         12         10         7

    NREC        ID      MONTH        DAY      YEAR      SITE     NCHAN
      47       137          4         28        75        C3         1
  LENGTH        SR       HOUR     MINUTE       SEC
    3001        10         12         10         7
    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47     137         4        28        75        C4         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        12        10         7

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47     137         4        28        75        D1         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        12        10         7

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47     137         4        28        75        D2         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        12        10         7

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47     137         4        28        75        D3         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        12        10         7

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47     137         4        28        75        D4         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        12        10         7

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47     138         4        27        75        A0         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        21        45        22

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47     138         4        27        75        B1         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        21        45        22

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47     138         4        27        75        B2         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        21        45        22

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47     138         4        27        75        B3         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        21        45        22

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47     138         4        27        75        B4         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        21        45        22

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47     138         4        27        75        C1         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        21        45        22

    NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
      47     138         4        27        75        C2         1
  LENGTH      SR      HOUR    MINUTE       SEC
    3001      10        21        45        22
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     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      138          4        27        75        C3         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10         21        45        22

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      138          4        27        75        C4         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10         21        45        22

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      138          4        27        75        D1         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10         21        45        22

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      138          4        27        75        D2         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10         21        45        22

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      138          4        27        75        D3         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10         21        45        22

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      138          4        27        75        D4         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10         21        45        22

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       57      139          4        25        75        A0         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3601       10          1         1        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       57      139          4        25        75        B1         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3601       10          1         1        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       57      139          4        25        75        B2         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3601       10          1         1        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       57      139          4        25        75        B3         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3601       10          1         1        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       57      139          4        25        75        B4         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3601       10          1         1        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       57      139          4        25        75        C1         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3601       10          1         1        54
   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     57     139         4       25       75       C2        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3601      10         1        1       54

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     57     139         4       25       75       C3        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3601      10         1        1       54

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     57     139         4       25       75       C4        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3601      10         1        1       54

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     57     139         4       25       75       D1        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3601      10         1        1       54

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     57     139         4       25       75       D2        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3601      10         1        1       54

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     57     139         4       25       75       D3        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3601      10         1        1       54

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     57     139         4       25       75       D4        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3601      10         1        1       54

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     140         4       24       75       A0        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3001      10        23        8       44

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     140         4       24       75       B1        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3001      10        23        8       44

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     140         4       24       75       B2        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3001      10        23        8       44

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     140         4       24       75       B3        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3001      10        23        8       44

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     140         4       24       75       B4        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3001      10        23        8       44
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    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      140         4        24        75        C1         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        23         8        44

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      140         4        24        75        C2         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        23         8        44

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      140         4        24        75        C3         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        23         8        44

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      140         4        24        75        C4         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        23         8        44

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      140         4        24        75        D1         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        23         8        44

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      140         4        24        75        D2         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        23         8        44

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      140         4        24        75        D3         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        23         8        44

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      140         4        24        75        D4         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        23         8        44

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      141         4        23        75        A0         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        23        59         2

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      141         4        23        75        B1         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        23        59         2

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      141         4        23        75        B2         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        23        59         2

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
      47      141         4        23        75        B3         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10        23        59         2
  NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
    47     141         4        23        75        B4         1
LENGTH      SR      HOUR    MINUTE       SEC
  3001      10        23        59         2

  NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
    47     141         4        23        75        C1         1
LENGTH      SR      HOUR    MINUTE       SEC
  3001      10        23        59         2

  NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
    47     141         4        23        75        C2         1
LENGTH      SR      HOUR    MINUTE       SEC
  3001      10        23        59         2

  NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
    47     141         4        23        75        C3         1
LENGTH      SR      HOUR    MINUTE       SEC
  3001      10        23        59         2

  NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
    47     141         4        23        75        C4         1
LENGTH      SR      HOUR    MINUTE       SEC
  3001      10        23        59         2

  NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
    47     141         4        23        75        D1         1
LENGTH      SR      HOUR    MINUTE       SEC
  3001      10        23        59         2

  NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
    47     141         4        23        75        D2         1
LENGTH      SR      HOUR    MINUTE       SEC
  3001      10        23        59         2

  NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
    47     141         4        23        75        D3         1
LENGTH      SR      HOUR    MINUTE       SEC
  3001      10        23        59         2

  NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
    47     141         4        23        75        D4         1
LENGTH      SR      HOUR    MINUTE       SEC
  3001      10        23        59         2

  NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
    47     142         4        23        75        A0         1
LENGTH      SR      HOUR    MINUTE       SEC
  3001      10         0        26        54

  NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
    47     142         4        23        75        B1         1
LENGTH      SR      HOUR    MINUTE       SEC
  3001      10         0        26        54

  NREC      ID     MONTH       DAY      YEAR      SITE     NCHAN
    47     142         4        23        75        B2         1
LENGTH      SR      HOUR    MINUTE       SEC
  3001      10         0        26        54
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     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      142          4        23        75        B3         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10          0        26        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      142          4        23        75        B4         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10          0        26        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      142          4        23        75        C1         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10          0        26        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      142          4        23        75        C2         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10          0        26        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      142          4        23        75        C3         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10          0        26        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      142          4        23        75        C4         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10          0        26        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      142          4        23        75        D1         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10          0        26        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      142          4        23        75        D2         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10          0        26        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      142          4        23        75        D3         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10          0        26        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      142          4        23        75        D4         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10          0        26        54

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      143          4        23        75        A0         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10          5        23         2

     NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
       47      143          4        23        75        B1         1
   LENGTH       SR       HOUR    MINUTE       SEC
     3001       10          5        23         2
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    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47     143         4        23       75        B2         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         5        23        2

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47     143         4        23       75        B3         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         5        23        2

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47     143         4        23       75        B4         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         5        23        2

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47     143         4        23       75        C1         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         5        23        2

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47     143         4        23       75        C2         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         5        23        2

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47     143         4        23       75        C3         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         5        23        2

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47     143         4        23       75        C4         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         5        23        2

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47     143         4        23       75        D1         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         5        23        2

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47     143         4        23       75        D2         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         5        23        2

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47     143         4        23       75        D3         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         5        23        2

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47     143         4        23       75        D4         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         5        23        2

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47     144         4        21       75        A0         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10        20        31       38
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   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       144         4         21        75         B1         1
  LENGTH      SR       HOUR     MINUTE       SEC
   3001        10        20         31        38

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       144         4         21        75         B2         1
  LENGTH      SR       HOUR     MINUTE       SEC
   3001        10        20         31        38

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       144         4         21        75         B3         1
  LENGTH      SR       HOUR     MINUTE       SEC
   3001        10        20         31        38

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       144         4         21        75         B4         1
  LENGTH      SR       HOUR     MINUTE       SEC
   3001        10        20         31        38

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       144         4         21        75         C1         1
  LENGTH      SR       HOUR     MINUTE       SEC
   3001        10        20         31        38

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       144         4         21        75         C2         1
  LENGTH      SR       HOUR     MINUTE       SEC
   3001        10        20         31        38

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       144         4         21        75         C3         1
  LENGTH      SR       HOUR     MINUTE       SEC
   3001        10        20         31        38

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       144         4         21        75         C4         1
  LENGTH      SR       HOUR     MINUTE       SEC
   3001        10        20         31        38

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       144         4         21        75         D1         1
  LENGTH      SR       HOUR     MINUTE       SEC
   3001        10        20         31        38

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       144         4         21        75         D2         1
  LENGTH      SR       HOUR     MINUTE       SEC
   3001        10        20         31        38

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       144         4         21        75         D3         1
  LENGTH      SR       HOUR     MINUTE       SEC
   3001        10        20         31        38

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       144         4         21        75         D4         1
  LENGTH      SR       HOUR     MINUTE       SEC
   3001        10        20         31        38
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        NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
          47      146         4        15        75        A0         1
      LENGTH       SR      HOUR    MINUTE       SEC
        3001       10        22        46        55

        NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
          47      146         4        15        75        B1         1
      LENGTH       SR      HOUR    MINUTE       SEC
        3001       10        22        46        55

        NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
          47      146         4        15        75        B2         1
      LENGTH       SR      HOUR    MINUTE       SEC
        3001       10        22        46        55

        NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
          47      146         4        15        75        B3         1
      LENGTH       SR      HOUR    MINUTE       SEC
        3001       10        22        46        55

        NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
          47      146         4        15        75        B4         1
      LENGTH       SR      HOUR    MINUTE       SEC
        3001       10        22        46        55

        NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
          47      146         4        15        75        C1         1
      LENGTH       SR      HOUR    MINUTE       SEC
        3001       10        22        46        55

        NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
          47      146         4        15        75        C2         1
      LENGTH       SR      HOUR    MINUTE       SEC
        3001       10        22        46        55

        NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
          47      146         4        15        75        C3         1
      LENGTH       SR      HOUR    MINUTE       SEC
        3001       10        22        46        55

        NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
          47      146         4        15        75        C4         1
      LENGTH       SR      HOUR    MINUTE       SEC
        3001       10        22        46        55

        NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
          47      146         4        15        75        D1         1
      LENGTH       SR      HOUR    MINUTE       SEC
        3001       10        22        46        55

        NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
          47      146         4        15        75        D2         1
      LENGTH       SR      HOUR    MINUTE       SEC
        3001       10        22        46        55

        NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
          47      146         4        15        75        D3         1
      LENGTH       SR      HOUR    MINUTE       SEC
        3001       10        22        46        55
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     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      146         4        15        75        D4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        22        46        55

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      147         4        14        75        A0         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        10        12

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      147         4        14        75        B1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        10        12

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      147         4        14        75        B2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        10        12

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      147         4        14        75        B3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        10        12

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      147         4        14        75        B4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        10        12

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      147         4        14        75        C1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        10        12

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      147         4        14        75        C2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        10        12

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      147         4        14        75        C3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        10        12

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      147         4        14        75        C4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        10        12

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      147         4        14        75        D1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        10        12

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47      147         4        14        75        D2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10        13        10        12
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        NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
          47      147          4         14        75         D3          1
      LENGTH       SR       HOUR     MINUTE       SEC
        3001       10         13         10        12

        NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
          47      147          4         14        75         D4          1
      LENGTH       SR       HOUR     MINUTE       SEC
        3001       10         13         10        12

        NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
          47      148          4         13        75         A0          1
      LENGTH       SR       HOUR     MINUTE       SEC
        3001       10         15         14        10

        NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
          47      148          4         13        75         B1          1
      LENGTH       SR       HOUR     MINUTE       SEC
        3001       10         15         14        10

        NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
          47      148          4         13        75         B2          1
      LENGTH       SR       HOUR     MINUTE       SEC
        3001       10         15         14        10

        NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
          47      148          4         13        75         B3          1
      LENGTH       SR       HOUR     MINUTE       SEC
        3001       10         15         14        10

        NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
          47      148          4         13        75         B4          1
      LENGTH       SR       HOUR     MINUTE       SEC
        3001       10         15         14        10

        NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
          47      148          4         13        75         C1          1
      LENGTH       SR       HOUR     MINUTE       SEC
        3001       10         15         14        10

        NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
          47      148          4         13        75         C2          1
      LENGTH       SR       HOUR     MINUTE       SEC
        3001       10         15         14        10

        NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
          47      148          4         13        75         C3          1
      LENGTH       SR       HOUR     MINUTE       SEC
        3001       10         15         14        10

        NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
          47      148          4         13        75         C4          1
      LENGTH       SR       HOUR     MINUTE       SEC
        3001       10         15         14        10

        NREC       ID      MONTH        DAY      YEAR       SITE      NCHAN
          47      148          4         13        75         D1          1
      LENGTH       SR       HOUR     MINUTE       SEC
        3001       10         15         14        10
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   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47      148          4        13        75        D2         1
 LENGTH       SR       HOUR    MINUTE       SEC
   3001       10         15        14        10

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47      148          4        13        75        D3         1
 LENGTH       SR       HOUR    MINUTE       SEC
   3001       10         15        14        10

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47      148          4        13        75        D4         1
 LENGTH       SR       HOUR    MINUTE       SEC
   3001       10         15        14        10

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47      149          4        13        75        A0         1
 LENGTH       SR       HOUR    MINUTE       SEC
   3001       10         16        30        21

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47      149          4        13        75        B1         1
 LENGTH       SR       HOUR    MINUTE       SEC
   3001       10         16        30        21

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47      149          4        13        75        B2         1
 LENGTH       SR       HOUR    MINUTE       SEC
   3001       10         16        30        21

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47      149          4        13        75        B3         1
 LENGTH       SR       HOUR    MINUTE       SEC
   3001       10         16        30        21

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47      149          4        13        75        B4         1
 LENGTH       SR       HOUR    MINUTE       SEC
   3001       10         16        30        21

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47      149          4        13        75        C1         1
 LENGTH       SR       HOUR    MINUTE       SEC
   3001       10         16        30        21

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47      149          4        13        75        C2         1
 LENGTH       SR       HOUR    MINUTE       SEC
   3001       10         16        30        21

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47      149          4        13        75        C3         1
 LENGTH       SR       HOUR    MINUTE       SEC
   3001       10         16        30        21

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47      149          4        13        75        C4         1
 LENGTH       SR       HOUR    MINUTE       SEC
   3001       10         16        30        21
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      NREC        ID      MONTH       DAY      YEAR      SITE     NCHAN
        47       149          4        13        75        D1         1
    LENGTH        SR       HOUR    MINUTE       SEC
      3001        10         16        30        21

      NREC        ID      MONTH       DAY      YEAR      SITE     NCHAN
        47       149          4        13        75        D2         1
    LENGTH        SR       HOUR    MINUTE       SEC
      3001        10         16        30        21

      NREC        ID      MONTH       DAY      YEAR      SITE     NCHAN
        47       149          4        13        75        D3         1
    LENGTH        SR       HOUR    MINUTE       SEC
      3001        10         16        30        21

      NREC        ID      MONTH       DAY      YEAR      SITE     NCHAN
        47       149          4        13        75        D4         1
    LENGTH        SR       HOUR    MINUTE       SEC
      3001        10         16        30        21

      NREC        ID      MONTH       DAY      YEAR      SITE     NCHAN
        47       150          4        12        75        A0         1
    LENGTH        SR       HOUR    MINUTE       SEC
      3001        10          0         1        10

      NREC        ID      MONTH       DAY      YEAR      SITE     NCHAN
        47       150          4        12        75        B1         1
    LENGTH        SR       HOUR    MINUTE       SEC
      3001        10          0         1        10

      NREC        ID      MONTH       DAY      YEAR      SITE     NCHAN
        47       150          4        12        75        B2         1
    LENGTH        SR       HOUR    MINUTE       SEC
      3001        10          0         1        10

      NREC        ID      MONTH       DAY      YEAR      SITE     NCHAN
        47       150          4        12        75        B3         1
    LENGTH        SR       HOUR    MINUTE       SEC
      3001        10          0         1        10

      NREC        ID      MONTH       DAY      YEAR      SITE     NCHAN
        47       150          4        12        75        B4         1
    LENGTH        SR       HOUR    MINUTE       SEC
      3001        10          0         1        10

      NREC        ID      MONTH       DAY      YEAR      SITE     NCHAN
        47       150          4        12        75        C1         1
    LENGTH        SR       HOUR    MINUTE       SEC
      3001        10          0         1        10

      NREC        ID      MONTH       DAY      YEAR      SITE     NCHAN
        47       150          4        12        75        C2         1
    LENGTH        SR       HOUR    MINUTE       SEC
      3001        10          0         1        10

      NREC        ID      MONTH       DAY      YEAR      SITE     NCHAN
        47       150          4        12        75        C3         1
    LENGTH        SR       HOUR    MINUTE       SEC
      3001        10          0         1        10
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     NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
       47      150         4         12        75        C4         1
   LENGTH       SR      HOUR     MINUTE       SEC
     3001       10         0          1        10

     NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
       47      150         4         12        75        D1         1
   LENGTH       SR      HOUR     MINUTE       SEC
     3001       10         0          1        10

     NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
       47      150         4         12        75        D2         1
   LENGTH       SR      HOUR     MINUTE       SEC
     3001       10         0          1        10

     NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
       47      150         4         12        75        D3         1
   LENGTH       SR      HOUR     MINUTE       SEC
     3001       10         0          1        10

     NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
       47      150         4         12        75        D4         1
   LENGTH       SR      HOUR     MINUTE       SEC
     3001       10         0          1        10

     NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
       47      151         4          9        75        A0         1
   LENGTH       SR      HOUR     MINUTE       SEC
     3001       10        20          6         0

     NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
       47      151         4          9        75        B1         1
   LENGTH       SR      HOUR     MINUTE       SEC
     3001       10        20          6         0

     NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
       47      151         4          9        75        B2         1
   LENGTH       SR      HOUR     MINUTE       SEC
     3001       10        20          6         0

     NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
       47      151         4          9        75        B3         1
   LENGTH       SR      HOUR     MINUTE       SEC
     3001       10        20          6         0

     NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
       47      151         4          9        75        B4         1
   LENGTH       SR      HOUR     MINUTE       SEC
     3001       10        20          6         0

     NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
       47      151         4          9        75        C1         1
   LENGTH       SR      HOUR     MINUTE       SEC
     3001       10        20          6         0

     NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
       47      151         4          9        75        C2         1
   LENGTH       SR      HOUR     MINUTE       SEC
     3001       10        20          6         0
   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     151         4        9       75       C3        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3001      10        20        6        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     151         4        9       75       C4        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3001      10        20        6        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     151         4        9       75       D1        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3001      10        20        6        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     151         4        9       75       D2        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3001      10        20        6        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     151         4        9       75       D3        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3001      10        20        6        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     151         4        9       75       D4        1
 LENGTH      SR      HOUR   MINUTE      SEC
   3001      10        20        6        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
      0     151         4        9       75        +    -7936
 LENGTH      SR      HOUR   MINUTE      SEC
      0       0         0        0        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     29     152         4        8       75       A0        1
 LENGTH      SR      HOUR   MINUTE      SEC
   1801      10         1       58       43

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     29     152         4        8       75       B1        1
 LENGTH      SR      HOUR   MINUTE      SEC
   1801      10         1       58       43

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     29     152         4        8       75       B2        1
 LENGTH      SR      HOUR   MINUTE      SEC
   1801      10         1       58       43

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     29     152         4        8       75       B3        1
 LENGTH      SR      HOUR   MINUTE      SEC
   1801      10         1       58       43

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     29     152         4        8       75       B4        1
 LENGTH      SR      HOUR   MINUTE      SEC
   1801      10         1       58       43
   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     29      152         4         8        75        C1         1
 LENGTH       SR      HOUR    MINUTE       SEC
   1801       10         1        58        43

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     29      152         4         8        75        C2         1
 LENGTH       SR      HOUR    MINUTE       SEC
   1801       10         1        58        43

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     29      152         4         8        75        C3         1
 LENGTH       SR      HOUR    MINUTE       SEC
   1801       10         1        58        43

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     29      152         4         8        75        C4         1
 LENGTH       SR      HOUR    MINUTE       SEC
   1801       10         1        58        43

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     29      152         4         8        75        D1         1
 LENGTH       SR      HOUR    MINUTE       SEC
   1801       10         1        58        43

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     29      152         4         8        75        D2         1
 LENGTH       SR      HOUR    MINUTE       SEC
   1801       10         1        58        43

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     29      152         4         8        75        D3         1
 LENGTH       SR      HOUR    MINUTE       SEC
   1801       10         1        58        43

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     29      152         4         8        75        D4         1
 LENGTH       SR      HOUR    MINUTE       SEC
   1801       10         1        58        43

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      153         4         8        75        A0         1
 LENGTH       SR      HOUR    MINUTE       SEC
   3001       10         2        58         6

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      153         4         8        75        B1         1
 LENGTH       SR      HOUR    MINUTE       SEC
   3001       10         2        58         6

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      153         4         8        75        B2         1
 LENGTH       SR      HOUR    MINUTE       SEC
   3001       10         2        58         6

   NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47      153         4         8        75        B3         1
 LENGTH       SR      HOUR    MINUTE       SEC
   3001       10         2        58         6
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      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       153         4         8        75        B4         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         2        58         6

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       153         4         8        75        C1         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         2        58         6

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       153         4         8        75        C2         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         2        58         6

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       153         4         8        75        C3         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         2        58         6

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       153         4         8        75        C4         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         2        58         6

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       153         4         8        75        D1         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         2        58         6

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       153         4         8        75        D2         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         2        58         6

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       153         4         8        75        D3         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10         2        58         6

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       154         4         8        75        A0         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10        23        26         4

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       154         4         8        75        B1         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10        23        26         4

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       154         4         8        75        B2         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10        23        26         4

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47       154         4         8        75        B3         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3001        10        23        26         4
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   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     154         4        8       75       B4        1
  LENGTH     SR      HOUR   MINUTE      SEC
   3001      10        23       26        4

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     154         4        8       75       C1        1
  LENGTH     SR      HOUR   MINUTE      SEC
   3001      10        23       26        4

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     154         4        8       75       C2        1
  LENGTH     SR      HOUR   MINUTE      SEC
   3001      10        23       26        4

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     154         4        8       75       C3        1
  LENGTH     SR      HOUR   MINUTE      SEC
   3001      10        23       26        4

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     154         4        8       75       C4        1
  LENGTH     SR      HOUR   MINUTE      SEC
   3001      10        23       26        4

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     154         4        8       75       D1        1
  LENGTH     SR      HOUR   MINUTE      SEC
   3001      10        23       26        4

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     154         4        8       75       D2        1
  LENGTH     SR      HOUR   MINUTE      SEC
   3001      10        23       26        4

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     154         4        8       75       D3        1
  LENGTH     SR      HOUR   MINUTE      SEC
   3001      10        23       26        4

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     154         4        8       75       D4        1
  LENGTH     SR      HOUR   MINUTE      SEC
   3001      10        23       26        4

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     155         4       10       75       A0        1
  LENGTH     SR      HOUR   MINUTE      SEC
   3001      10         3       18       25

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     155         4       10       75       B1        1
  LENGTH     SR      HOUR   MINUTE      SEC
   3001      10         3       18       25

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47     155         4       10       75       B2        1
  LENGTH     SR      HOUR   MINUTE      SEC
   3001      10         3       18       25
```

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    NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
      47     155         4       10       75       B3        1
  LENGTH      SR      HOUR   MINUTE      SEC
    3001      10         3       18       25

    NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
      47     155         4       10       75       B4        1
  LENGTH      SR      HOUR   MINUTE      SEC
    3001      10         3       18       25

    NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
      47     155         4       10       75       C1        1
  LENGTH      SR      HOUR   MINUTE      SEC
    3001      10         3       18       25

    NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
      47     155         4       10       75       C2        1
  LENGTH      SR      HOUR   MINUTE      SEC
    3001      10         3       18       25

    NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
      47     155         4       10       75       C3        1
  LENGTH      SR      HOUR   MINUTE      SEC
    3001      10         3       18       25

    NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
      47     155         4       10       75       C4        1
  LENGTH      SR      HOUR   MINUTE      SEC
    3001      10         3       18       25

    NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
      47     155         4       10       75       D1        1
  LENGTH      SR      HOUR   MINUTE      SEC
    3001      10         3       18       25

    NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
      47     155         4       10       75       D2        1
  LENGTH      SR      HOUR   MINUTE      SEC
    3001      10         3       18       25

    NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
      47     155         4       10       75       D3        1
  LENGTH      SR      HOUR   MINUTE      SEC
    3001      10         3       18       25

    NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
      47     155         4       10       75       D4        1
  LENGTH      SR      HOUR   MINUTE      SEC
    3001      10         3       18       25
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Headers for ACDA Data - Explosions

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     NREC       ID     MONTH       DAY     YEAR     SITE    NCHAN
       47       37         3        23       71       A0        1
   LENGTH       SR      HOUR    MINUTE      SEC
     3003       10         7         9       22

     NREC       ID     MONTH       DAY     YEAR     SITE    NCHAN
       47       37         3        23       71       B1        1
   LENGTH       SR      HOUR    MINUTE      SEC
     3003       10         7         9       22

     NREC       ID     MONTH       DAY     YEAR     SITE    NCHAN
       47       37         3        23       71       B2        1
   LENGTH       SR      HOUR    MINUTE      SEC
     3003       10         7         9       22

     NREC       ID     MONTH       DAY     YEAR     SITE    NCHAN
       47       37         3        23       71       B3        1
   LENGTH       SR      HOUR    MINUTE      SEC
     3003       10         7         9       22

     NREC       ID     MONTH       DAY     YEAR     SITE    NCHAN
       47       37         3        23       71       B4        1
   LENGTH       SR      HOUR    MINUTE      SEC
     3003       10         7         9       22

     NREC       ID     MONTH       DAY     YEAR     SITE    NCHAN
       47       37         3        23       71       C1        1
   LENGTH       SR      HOUR    MINUTE      SEC
     3003       10         7         9       22

     NREC       ID     MONTH       DAY     YEAR     SITE    NCHAN
       47       37         3        23       71       C2        1
   LENGTH       SR      HOUR    MINUTE      SEC
     3003       10         7         9       22

     NREC       ID     MONTH       DAY     YEAR     SITE    NCHAN
       47       37         3        23       71       C3        1
   LENGTH       SR      HOUR    MINUTE      SEC
     3003       10         7         9       22

     NREC       ID     MONTH       DAY     YEAR     SITE    NCHAN
       47       37         3        23       71       C4        1
   LENGTH       SR      HOUR    MINUTE      SEC
     3003       10         7         9       22

     NREC       ID     MONTH       DAY     YEAR     SITE    NCHAN
       47       37         3        23       71       D1        1
   LENGTH       SR      HOUR    MINUTE      SEC
     3003       10         7         9       22

     NREC       ID     MONTH       DAY     YEAR     SITE    NCHAN
       47       37         3        23       71       D2        1
   LENGTH       SR      HOUR    MINUTE      SEC
     3003       10         7         9       22

     NREC       ID     MONTH       DAY     YEAR     SITE    NCHAN
       47       37         3        23       71       D3        1
   LENGTH       SR      HOUR    MINUTE      SEC
     3003       10         7         9       22
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    NREC       ID      MONTH      DAY     YEAR      SITE     NCHAN
     47        37          3       23       71        D4         1
  LENGTH       SR       HOUR   MINUTE      SEC
    3003       10          7        9       22

    NREC       ID      MONTH      DAY     YEAR      SITE     NCHAN
     47        37          3       23       71        E1         1
  LENGTH       SR       HOUR   MINUTE      SEC
    3003       10          7        9       22

    NREC       ID      MONTH      DAY     YEAR      SITE     NCHAN
     47        37          3       23       71        E2         1
  LENGTH       SR       HOUR   MINUTE      SEC
    3003       10          7        9       22

    NREC       ID      MONTH      DAY     YEAR      SITE     NCHAN
     47        37          3       23       71        E3         1
  LENGTH       SR       HOUR   MINUTE      SEC
    3003       10          7        9       22

    NREC       ID      MONTH      DAY     YEAR      SITE     NCHAN
     47        37          3       23       71        E4         1
  LENGTH       SR       HOUR   MINUTE      SEC
    3003       10          7        9       22

    NREC       ID      MONTH      DAY     YEAR      SITE     NCHAN
     47        37          3       23       71        F1         1
  LENGTH       SR       HOUR   MINUTE      SEC
    3003       10          7        9       22

    NREC       ID      MONTH      DAY     YEAR      SITE     NCHAN
     47        37          3       23       71        F2         1
  LENGTH       SR       HOUR   MINUTE      SEC
    3003       10          7        9       22

    NREC       ID      MONTH      DAY     YEAR      SITE     NCHAN
     47        37          3       23       71        F3         1
  LENGTH       SR       HOUR   MINUTE      SEC
    3003       10          7        9       22

    NREC       ID      MONTH      DAY     YEAR      SITE     NCHAN
     47        37          3       23       71        F4         1
  LENGTH       SR       HOUR   MINUTE      SEC
    3003       10          7        9       22

    NREC       ID      MONTH      DAY     YEAR      SITE     NCHAN
     47        38          7        2       71        A0         1
  LENGTH       SR       HOUR   MINUTE      SEC
    3004       10         17        8       49

    NREC       ID      MONTH      DAY     YEAR      SITE     NCHAN
     47        38          7        2       71        B1         1
  LENGTH       SR       HOUR   MINUTE      SEC
    3004       10         17        8       49

    NREC       ID      MONTH      DAY     YEAR      SITE     NCHAN
     47        38          7        2       71        B2         1
  LENGTH       SR       HOUR   MINUTE      SEC
    3004       10         17        8       49
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   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       38          7         2        71        B3         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3004       10         17         8        49

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       38          7         2        71        B4         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3004       10         17         8        49

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       38          7         2        71        C1         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3004       10         17         8        49

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       38          7         2        71        C2         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3004       10         17         8        49

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       38          7         2        71        C3         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3004       10         17         8        49

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       38          7         2        71        C4         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3004       10         17         8        49

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       38          7         2        71        D1         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3004       10         17         8        49

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       38          7         2        71        D2         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3004       10         17         8        49

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       38          7         2        71        D3         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3004       10         17         8        49

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       38          7         2        71        D4         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3004       10         17         8        49

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       38          7         2        71        E1         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3004       10         17         8        49

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       38          7         2        71        E2         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3004       10         17         8        49
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    NREC       ID      MONTH        DAY      YEAR      SITE      NCHAN
     47        38          7          2        71        E3          1
   LENGTH      SR       HOUR     MINUTE       SEC
    3004       10         17          8        49

    NREC       ID      MONTH        DAY      YEAR      SITE      NCHAN
     47        38          7          2        71        E4          1
   LENGTH      SR       HOUR     MINUTE       SEC
    3004       10         17          8        49

    NREC       ID      MONTH        DAY      YEAR      SITE      NCHAN
     47        38          7          2        71        F1          1
   LENGTH      SR       HOUR     MINUTE       SEC
    3004       10         17          8        49

    NREC       ID      MONTH        DAY      YEAR      SITE      NCHAN
     47        38          7          2        71        F2          1
   LENGTH      SR       HOUR     MINUTE       SEC
    3004       10         17          8        49

    NREC       ID      MONTH        DAY      YEAR      SITE      NCHAN
     47        38          7          2        71        F3          1
   LENGTH      SR       HOUR     MINUTE       SEC
    3004       10         17          8        49

    NREC       ID      MONTH        DAY      YEAR      SITE      NCHAN
     47        38          7          2        71        F4          1
   LENGTH      SR       HOUR     MINUTE       SEC
    3004       10         17          8        49

    NREC       ID      MONTH        DAY      YEAR      SITE      NCHAN
     47        39          7         10        71        A0          1
   LENGTH      SR       HOUR     MINUTE       SEC
    3005       10         17          9         5

    NREC       ID      MONTH        DAY      YEAR      SITE      NCHAN
     47        39          7         10        71        B1          1
   LENGTH      SR       HOUR     MINUTE       SEC
    3005       10         17          9         5

    NREC       ID      MONTH        DAY      YEAR      SITE      NCHAN
     47        39          7         10        71        B2          1
   LENGTH      SR       HOUR     MINUTE       SEC
    3005       10         17          9         5

    NREC       ID      MONTH        DAY      YEAR      SITE      NCHAN
     47        39          7         10        71        B3          1
   LENGTH      SR       HOUR     MINUTE       SEC
    3005       10         17          9         5

    NREC       ID      MONTH        DAY      YEAR      SITE      NCHAN
     47        39          7         10        71        B4          1
   LENGTH      SR       HOUR     MINUTE       SEC
    3005       10         17          9         5

    NREC       ID      MONTH        DAY      YEAR      SITE      NCHAN
     47        39          7         10        71        C1          1
   LENGTH      SR       HOUR     MINUTE       SEC
    3005       10         17          9         5
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      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47        39          7          10        71         C2          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3005        10         17           9         5

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47        39          7          10        71         C3          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3005        10         17           9         5

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47        39          7          10        71         C4          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3005        10         17           9         5

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47        39          7          10        71         D1          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3005        10         17           9         5

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47        39          7          10        71         D2          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3005        10         17           9         5

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47        39          7          10        71         D3          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3005        10         17           9         5

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47        39          7          10        71         D4          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3005        10         17           9         5

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47        39          7          10        71         E1          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3005        10         17           9         5

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47        39          7          10        71         E2          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3005        10         17           9         5

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47        39          7          10        71         E3          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3005        10         17           9         5

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47        39          7          10        71         E4          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3005        10         17           9         5

      NREC        ID      MONTH         DAY      YEAR       SITE      NCHAN
        47        39          7          10        71         F1          1
    LENGTH        SR       HOUR      MINUTE       SEC
      3005        10         17           9         5
    NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
      47      39         7        10       71       F2        1
  LENGTH      SR      HOUR    MINUTE      SEC
    3005      10        17         9        5

    NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
      47      39         7        10       71       F3        1
  LENGTH      SR      HOUR    MINUTE      SEC
    3005      10        17         9        5

    NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
      47      39         7        10       71       F4        1
  LENGTH      SR      HOUR    MINUTE      SEC
    3005      10        17         9        5

    NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
      47      40         9        19       71       A0        1
  LENGTH      SR      HOUR    MINUTE      SEC
    3002      10        11         9       32

    NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
      47      40         9        19       71       B1        1
  LENGTH      SR      HOUR    MINUTE      SEC
    3002      10        11         9       32

    NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
      47      40         9        19       71       B2        1
  LENGTH      SR      HOUR    MINUTE      SEC
    3002      10        11         9       32

    NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
      47      40         9        19       71       B3        1
  LENGTH      SR      HOUR    MINUTE      SEC
    3002      10        11         9       32

    NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
      47      40         9        19       71       B4        1
  LENGTH      SR      HOUR    MINUTE      SEC
    3002      10        11         9       32

    NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
      47      40         9        19       71       C1        1
  LENGTH      SR      HOUR    MINUTE      SEC
    3002      10        11         9       32

    NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
      47      40         9        19       71       C2        1
  LENGTH      SR      HOUR    MINUTE      SEC
    3002      10        11         9       32

    NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
      47      40         9        19       71       C3        1
  LENGTH      SR      HOUR    MINUTE      SEC
    3002      10        11         9       32

    NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
      47      40         9        19       71       C4        1
  LENGTH      SR      HOUR    MINUTE      SEC
    3002      10        11         9       32
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   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       40          9        19        71        D1         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3002       10         11         9        32

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       40          9        19        71        D2         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3002       10         11         9        32

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       40          9        19        71        D3         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3002       10         11         9        32

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       40          9        19        71        D4         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3002       10         11         9        32

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       40          9        19        71        E1         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3002       10         11         9        32

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       40          9        19        71        E2         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3002       10         11         9        32

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       40          9        19        71        E3         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3002       10         11         9        32

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       40          9        19        71        E4         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3002       10         11         9        32

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       40          9        19        71        F1         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3002       10         11         9        32

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       40          9        19        71        F2         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3002       10         11         9        32

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       40          9        19        71        F3         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3002       10         11         9        32

   NREC       ID      MONTH       DAY      YEAR      SITE     NCHAN
     47       40          9        19        71        F4         1
  LENGTH      SR       HOUR    MINUTE       SEC
   3002       10         11         9        32
   NREC      ID     MONTH      DAY     YEAR      SITE     NCHAN
    47       41       10        4       71        A0          1
  LENGTH     SR      HOUR    MINUTE     SEC
   3004      10       10        9       15

   NREC      ID     MONTH      DAY     YEAR      SITE     NCHAN
    47       41       10        4       71        B1          1
  LENGTH     SR      HOUR    MINUTE     SEC
   3004      10       10        9       15

   NREC      ID     MONTH      DAY     YEAR      SITE     NCHAN
    47       41       10        4       71        B2          1
  LENGTH     SR      HOUR    MINUTE     SEC
   3004      10       10        9       15

   NREC      ID     MONTH      DAY     YEAR      SITE     NCHAN
    47       41       10        4       71        B3          1
  LENGTH     SR      HOUR    MINUTE     SEC
   3004      10       10        9       15

   NREC      ID     MONTH      DAY     YEAR      SITE     NCHAN
    47       41       10        4       71        B4          1
  LENGTH     SR      HOUR    MINUTE     SEC
   3004      10       10        9       15

   NREC      ID     MONTH      DAY     YEAR      SITE     NCHAN
    47       41       10        4       71        C1          1
  LENGTH     SR      HOUR    MINUTE     SEC
   3004      10       10        9       15

   NREC      ID     MONTH      DAY     YEAR      SITE     NCHAN
    47       41       10        4       71        C2          1
  LENGTH     SR      HOUR    MINUTE     SEC
   3004      10       10        9       15

   NREC      ID     MONTH      DAY     YEAR      SITE     NCHAN
    47       41       10        4       71        C3          1
  LENGTH     SR      HOUR    MINUTE     SEC
   3004      10       10        9       15

   NREC      ID     MONTH      DAY     YEAR      SITE     NCHAN
    47       41       10        4       71        C4          1
  LENGTH     SR      HOUR    MINUTE     SEC
   3004      10       10        9       15

   NREC      ID     MONTH      DAY     YEAR      SITE     NCHAN
    47       41       10        4       71        D1          1
  LENGTH     SR      HOUR    MINUTE     SEC
   3004      10       10        9       15

   NREC      ID     MONTH      DAY     YEAR      SITE     NCHAN
    47       41       10        4       71        D2          1
  LENGTH     SR      HOUR    MINUTE     SEC
   3004      10       10        9       15

   NREC      ID     MONTH      DAY     YEAR      SITE     NCHAN
    47       41       10        4       71        D3          1
  LENGTH     SR      HOUR    MINUTE     SEC
   3004      10       10        9       15
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 NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
   47       41        10         4       71        D4         1
LENGTH      SR      HOUR    MINUTE      SEC
 3004       10        10         9       15

 NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
   47       41        10         4       71        E1         1
LENGTH      SR      HOUR    MINUTE      SEC
 3004       10        10         9       15

 NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
   47       41        10         4       71        E2         1
LENGTH      SR      HOUR    MINUTE      SEC
 3004       10        10         9       15

 NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
   47       41        10         4       71        E3         1
LENGTH      SR      HOUR    MINUTE      SEC
 3004       10        10         9       15

 NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
   47       41        10         4       71        E4         1
LENGTH      SR      HOUR    MINUTE      SEC
 3004       10        10         9       15

 NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
   47       41        10         4       71        F1         1
LENGTH      SR      HOUR    MINUTE      SEC
 3004       10        10         9       15

 NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
   47       41        10         4       71        F2         1
LENGTH      SR      HOUR    MINUTE      SEC
 3004       10        10         9       15

 NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
   47       41        10         4       71        F3         1
LENGTH      SR      HOUR    MINUTE      SEC
 3004       10        10         9       15

 NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
   47       41        10         4       71        F4         1
LENGTH      SR      HOUR    MINUTE      SEC
 3004       10        10         9       15

 NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
   47       42        10        22       71        A0         1
LENGTH      SR      HOUR    MINUTE      SEC
 3002       10         5        10       40

 NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
   47       42        10        22       71        B1         1
LENGTH      SR      HOUR    MINUTE      SEC
 3002       10         5        10       40

 NREC       ID     MONTH       DAY     YEAR      SITE     NCHAN
   47       42        10        22       71        B2         1
LENGTH      SR      HOUR    MINUTE      SEC
 3002       10         5        10       40
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     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       42        10        22        71        B3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3002       10         5        10        40

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       42        10        22        71        B4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3002       10         5        10        40

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       42        10        22        71        C1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3002       10         5        10        40

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       42        10        22        71        C2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3002       10         5        10        40

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       42        10        22        71        C3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3002       10         5        10        40

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       42        10        22        71        C4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3002       10         5        10        40

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       42        10        22        71        D1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3002       10         5        10        40

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       42        10        22        71        D2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3002       10         5        10        40

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       42        10        22        71        D3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3002       10         5        10        40

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       42        10        22        71        D4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3002       10         5        10        40

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       42        10        22        71        E1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3002       10         5        10        40

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       42        10        22        71        E2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3002       10         5        10        40
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    NREC     ID    MONTH     DAY    YEAR    SITE   NCHAN
      47      42      10      22     71       E3       1
   LENGTH    SR     HOUR   MINUTE     SEC
    3002      10       5      10      40

    NREC     ID    MONTH     DAY    YEAR    SITE   NCHAN
      47      42      10      22     71       E4       1
   LENGTH    SR     HOUR   MINUTE     SEC
    3002      10       5      10      40

    NREC     ID    MONTH     DAY    YEAR    SITE   NCHAN
      47      42      10      22     71       F1       1
   LENGTH    SR     HOUR   MINUTE     SEC
    3002      10       5      10      40

    NREC     ID    MONTH     DAY    YEAR    SITE   NCHAN
      47      42      10      22     71       F2       1
   LENGTH    SR     HOUR   MINUTE     SEC
    3002      10       5      10      40

    NREC     ID    MONTH     DAY    YEAR    SITE   NCHAN
      47      42      10      22     71       F3       1
   LENGTH    SR     HOUR   MINUTE     SEC
    3002      10       5      10      40

    NREC     ID    MONTH     DAY    YEAR    SITE   NCHAN
      47      42      10      22     71       F4       1
   LENGTH    SR     HOUR   MINUTE     SEC
    3002      10       5      10      40

    NREC     ID    MONTH     DAY    YEAR    SITE   NCHAN
      47      43      12      22     71       A0       1
   LENGTH    SR     HOUR   MINUTE     SEC
    3004      10       7      10      27

    NREC     ID    MONTH     DAY    YEAR    SITE   NCHAN
      47      43      12      22     71       B1       1
   LENGTH    SR     HOUR   MINUTE     SEC
    3004      10       7      10      27

    NREC     ID    MONTH     DAY    YEAR    SITE   NCHAN
      47      43      12      22     71       B2       1
   LENGTH    SR     HOUR   MINUTE     SEC
    3004      10       7      10      27

    NREC     ID    MONTH     DAY    YEAR    SITE   NCHAN
      47      43      12      22     71       B3       1
   LENGTH    SR     HOUR   MINUTE     SEC
    3004      10       7      10      27

    NREC     ID    MONTH     DAY    YEAR    SITE   NCHAN
      47      43      12      22     71       B4       1
   LENGTH    SR     HOUR   MINUTE     SEC
    3004      10       7      10      27

    NREC     ID    MONTH     DAY    YEAR    SITE   NCHAN
      47      43      12      22     71       C1       1
   LENGTH    SR     HOUR   MINUTE     SEC
    3004      10       7      10      27
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      NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
        47        43         12         22        71         C2          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3004        10          7         10        27

      NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
        47        43         12         22        71         C3          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3004        10          7         10        27

      NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
        47        43         12         22        71         C4          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3004        10          7         10        27

      NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
        47        43         12         22        71         D1          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3004        10          7         10        27

      NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
        47        43         12         22        71         D2          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3004        10          7         10        27

      NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
        47        43         12         22        71         D3          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3004        10          7         10        27

      NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
        47        43         12         22        71         D4          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3004        10          7         10        27

      NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
        47        43         12         22        71         E1          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3004        10          7         10        27

      NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
        47        43         12         22        71         E2          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3004        10          7         10        27

      NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
        47        43         12         22        71         E3          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3004        10          7         10        27

      NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
        47        43         12         22        71         E4          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3004        10          7         10        27

      NREC        ID      MONTH        DAY      YEAR       SITE      NCHAN
        47        43         12         22        71         F1          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3004        10          7         10        27
      NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
        47      43        12        22       71        F2         1
    LENGTH      SR      HOUR    MINUTE      SEC
      3004      10         7        10       27

      NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
        47      43        12        22       71        F3         1
    LENGTH      SR      HOUR    MINUTE      SEC
      3004      10         7        10       27

      NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
        47      43        12        22       71        F4         1
    LENGTH      SR      HOUR    MINUTE      SEC
      3004      10         7        10       27

      NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
        47      45         4        11       72        A0         1
    LENGTH      SR      HOUR    MINUTE      SEC
      3002      10         6        12       30

      NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
        47      45         4        11       72        B1         1
    LENGTH      SR      HOUR    MINUTE      SEC
      3002      10         6        12       30

      NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
        47      45         4        11       72        B2         1
    LENGTH      SR      HOUR    MINUTE      SEC
      3002      10         6        12       30

      NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
        47      45         4        11       72        B3         1
    LENGTH      SR      HOUR    MINUTE      SEC
      3002      10         6        12       30

      NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
        47      45         4        11       72        B4         1
    LENGTH      SR      HOUR    MINUTE      SEC
      3002      10         6        12       30

      NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
        47      45         4        11       72        C1         1
    LENGTH      SR      HOUR    MINUTE      SEC
      3002      10         6        12       30

      NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
        47      45         4        11       72        C2         1
    LENGTH      SR      HOUR    MINUTE      SEC
      3002      10         6        12       30

      NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
        47      45         4        11       72        C3         1
    LENGTH      SR      HOUR    MINUTE      SEC
      3002      10         6        12       30

      NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
        47      45         4        11       72        C4         1
    LENGTH      SR      HOUR    MINUTE      SEC
      3002      10         6        12       30
      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        45         4        11        72        D1         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3002        10         6        12        30

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        45         4        11        72        D2         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3002        10         6        12        30

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        45         4        11        72        D3         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3002        10         6        12        30

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        45         4        11        72        D4         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3002        10         6        12        30

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        45         4        11        72        E1         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3002        10         6        12        30

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        45         4        11        72        E2         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3002        10         6        12        30

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        45         4        11        72        E3         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3002        10         6        12        30

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        45         4        11        72        E4         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3002        10         6        12        30

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        45         4        11        72        F1         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3002        10         6        12        30

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        45         4        11        72        F2         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3002        10         6        12        30

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        45         4        11        72        F3         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3002        10         6        12        30

      NREC        ID     MONTH       DAY      YEAR      SITE     NCHAN
        47        45         4        11        72        F4         1
    LENGTH        SR      HOUR    MINUTE       SEC
      3002        10         6        12        30
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   NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       46          7          9        72        A0         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3005       10          7         10         3

   NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       46          7          9        72        B1         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3005       10          7         10         3

   NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       46          7          9        72        B2         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3005       10          7         10         3

   NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       46          7          9        72        B3         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3005       10          7         10         3

   NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       46          7          9        72        B4         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3005       10          7         10         3

   NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       46          7          9        72        C1         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3005       10          7         10         3

   NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       46          7          9        72        C2         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3005       10          7         10         3

   NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       46          7          9        72        C3         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3005       10          7         10         3

   NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       46          7          9        72        C4         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3005       10          7         10         3

   NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       46          7          9        72        D1         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3005       10          7         10         3

   NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       46          7          9        72        D2         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3005       10          7         10         3

   NREC       ID      MONTH        DAY      YEAR      SITE     NCHAN
     47       46          7          9        72        D3         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3005       10          7         10         3
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       NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
         47        46         7          9        72        D4         1
     LENGTH        SR      HOUR     MINUTE       SEC
       3005        10         7         10         3

       NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
         47        46         7          9        72        E1         1
     LENGTH        SR      HOUR     MINUTE       SEC
       3005        10         7         10         3

       NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
         47        46         7          9        72        E2         1
     LENGTH        SR      HOUR     MINUTE       SEC
       3005        10         7         10         3

       NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
         47        46         7          9        72        E3         1
     LENGTH        SR      HOUR     MINUTE       SEC
       3005        10         7         10         3

       NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
         47        46         7          9        72        E4         1
     LENGTH        SR      HOUR     MINUTE       SEC
       3005        10         7         10         3

       NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
         47        46         7          9        72        F1         1
     LENGTH        SR      HOUR     MINUTE       SEC
       3005        10         7         10         3

       NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
         47        46         7          9        72        F2         1
     LENGTH        SR      HOUR     MINUTE       SEC
       3005        10         7         10         3

       NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
         47        46         7          9        72        F3         1
     LENGTH        SR      HOUR     MINUTE       SEC
       3005        10         7         10         3

       NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
         47        46         7          9        72        F4         1
     LENGTH        SR      HOUR     MINUTE       SEC
       3005        10         7         10         3

       NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
         47        47         8         20        72        A0         1
     LENGTH        SR      HOUR     MINUTE       SEC
       3004        10         3         10        20

       NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
         47        47         8         20        72        B1         1
     LENGTH        SR      HOUR     MINUTE       SEC
       3004        10         3         10        20

       NREC        ID     MONTH        DAY      YEAR      SITE     NCHAN
         47        47         8         20        72        B2         1
     LENGTH        SR      HOUR     MINUTE       SEC
       3004        10         3         10        20
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  NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
    47      47         8       20       72       B3         1
LENGTH      SR      HOUR   MINUTE      SEC
  3004      10         3       10       20

  NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
    47      47         8       20       72       B4         1
LENGTH      SR      HOUR   MINUTE      SEC
  3004      10         3       10       20

  NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
    47      47         8       20       72       C1         1
LENGTH      SR      HOUR   MINUTE      SEC
  3004      10         3       10       20

  NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
    47      47         8       20       72       C2         1
LENGTH      SR      HOUR   MINUTE      SEC
  3004      10         3       10       20

  NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
    47      47         8       20       72       C3         1
LENGTH      SR      HOUR   MINUTE      SEC
  3004      10         3       10       20

  NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
    47      47         8       20       72       C4         1
LENGTH      SR      HOUR   MINUTE      SEC
  3004      10         3       10       20

  NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
    47      47         8       20       72       D1         1
LENGTH      SR      HOUR   MINUTE      SEC
  3004      10         3       10       20

  NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
    47      47         8       20       72       D2         1
LENGTH      SR      HOUR   MINUTE      SEC
  3004      10         3       10       20

  NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
    47      47         8       20       72       D3         1
LENGTH      SR      HOUR   MINUTE      SEC
  3004      10         3       10       20

  NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
    47      47         8       20       72       D4         1
LENGTH      SR      HOUR   MINUTE      SEC
  3004      10         3       10       20

  NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
    47      47         8       20       72       E1         1
LENGTH      SR      HOUR   MINUTE      SEC
  3004      10         3       10       20

  NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
    47      47         8       20       72       E2         1
LENGTH      SR      HOUR   MINUTE      SEC
  3004      10         3       10       20
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   NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
     47      47         8       20       72       E3         1
  LENGTH     SR      HOUR   MINUTE      SEC
   3004      10         3       10       20

   NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
     47      47         8       20       72       F4         1
  LENGTH     SR      HOUR   MINUTE      SEC
   3004      10         3       10       20

   NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
     47      47         8       20       72       F1         1
  LENGTH     SR      HOUR   MINUTE      SEC
   3004      10         3       10       20

   NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
     47      47         8       20       72       F2         1
  LENGTH     SR      HOUR   MINUTE      SEC
   3004      10         3       10       20

   NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
     47      47         8       20       72       F3         1
  LENGTH     SR      HOUR   MINUTE      SEC
   3004      10         3       10       20

   NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
     47      47         8       20       72       F4         1
  LENGTH     SR      HOUR   MINUTE      SEC
   3004      10         3       10       20

   NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
     47      48         9        4       72       A0         1
  LENGTH     SR      HOUR   MINUTE      SEC
   3003      10         7        8       26

   NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
     47      48         9        4       72       B1         1
  LENGTH     SR      HOUR   MINUTE      SEC
   3003      10         7        8       26

   NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
     47      48         9        4       72       B2         1
  LENGTH     SR      HOUR   MINUTE      SEC
   3003      10         7        8       26

   NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
     47      48         9        4       72       B3         1
  LENGTH     SR      HOUR   MINUTE      SEC
   3003      10         7        8       26

   NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
     47      48         9        4       72       B4         1
  LENGTH     SR      HOUR   MINUTE      SEC
   3003      10         7        8       26

   NREC      ID     MONTH      DAY     YEAR     SITE     NCHAN
     47      48         9        4       72       C1         1
  LENGTH     SR      HOUR   MINUTE      SEC
   3003      10         7        8       26
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    NREC     ID   MONTH     DAY   YEAR    SITE   NCHAN
      47      48       9       4     72      C2       1
   LENGTH    SR     HOUR   MINUTE   SEC
    3003      10       7       8     26

    NREC     ID   MONTH     DAY   YEAR    SITE   NCHAN
      47      48       9       4     72      C3       1
   LENGTH    SR     HOUR   MINUTE   SEC
    3003      10       7       8     26

    NREC     ID   MONTH     DAY   YEAR    SITE   NCHAN
      47      48       9       4     72      C4       1
   LENGTH    SR     HOUR   MINUTE   SEC
    3003      10       7       8     26

    NREC     ID   MONTH     DAY   YEAR    SITE   NCHAN
      47      48       9       4     72      D1       1
   LENGTH    SR     HOUR   MINUTE   SEC
    3003      10       7       8     26

    NREC     ID   MONTH     DAY   YEAR    SITE   NCHAN
      47      48       9       4     72      D2       1
   LENGTH    SR     HOUR   MINUTE   SEC
    3003      10       7       8     26

    NREC     ID   MONTH     DAY   YEAR    SITE   NCHAN
      47      48       9       4     72      D3       1
   LENGTH    SR     HOUR   MINUTE   SEC
    3003      10       7       8     26

    NREC     ID   MONTH     DAY   YEAR    SITE   NCHAN
      47      48       9       4     72      D4       1
   LENGTH    SR     HOUR   MINUTE   SEC
    3003      10       7       8     26

    NREC     ID   MONTH     DAY   YEAR    SITE   NCHAN
      47      48       9       4     72      E1       1
   LENGTH    SR     HOUR   MINUTE   SEC
    3003      10       7       8     26

    NREC     ID   MONTH     DAY   YEAR    SITE   NCHAN
      47      48       9       4     72      E2       1
   LENGTH    SR     HOUR   MINUTE   SEC
    3003      10       7       8     26

    NREC     ID   MONTH     DAY   YEAR    SITE   NCHAN
      47      48       9       4     72      E3       1
   LENGTH    SR     HOUR   MINUTE   SEC
    3003      10       7       8     26

    NREC     ID   MONTH     DAY   YEAR    SITE   NCHAN
      47      48       9       4     72      E4       1
   LENGTH    SR     HOUR   MINUTE   SEC
    3003      10       7       8     26

    NREC     ID   MONTH     DAY   YEAR    SITE   NCHAN
      47      48       9       4     72      F1       1
   LENGTH    SR     HOUR   MINUTE   SEC
    3003      10       7       8     26
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     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       48         9         4        72        F2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3003       10         7         8        26

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       48         9         4        72        F3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3003       10         7         8        26

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       48         9         4        72        F4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3003       10         7         8        26

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       49         9        21        72        A0         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9        10         9

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       49         9        21        72        B1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9        10         9

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       49         9        21        72        B2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9        10         9

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       49         9        21        72        B3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9        10         9

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       49         9        21        72        B4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9        10         9

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       49         9        21        72        C1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9        10         9

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       49         9        21        72        C2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9        10         9

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       49         9        21        72        C3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9        10         9

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       49         9        21        72        C4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         9        10         9
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    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47        49         9        21        72        D1         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         9        10         9

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47        49         9        21        72        D2         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         9        10         9

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47        49         9        21        72        D3         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         9        10         9

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47        49         9        21        72        D4         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         9        10         9

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47        49         9        21        72        E1         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         9        10         9

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47        49         9        21        72        E2         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         9        10         9

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47        49         9        21        72        E3         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         9        10         9

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47        49         9        21        72        E4         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         9        10         9

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47        49         9        21        72        F1         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         9        10         9

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47        49         9        21        72        F2         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         9        10         9

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47        49         9        21        72        F3         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         9        10         9

    NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
     47        49         9        21        72        F4         1
  LENGTH       SR      HOUR    MINUTE       SEC
    3001       10         9        10         9
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      NREC        ID      MONTH        DAY      YEAR      SITE      NCHAN
        47        50         10          3        72        A0          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3005        10          9         10        29

      NREC        ID      MONTH        DAY      YEAR      SITE      NCHAN
        47        50         10          3        72        B1          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3005        10          9         10        29

      NREC        ID      MONTH        DAY      YEAR      SITE      NCHAN
        47        50         10          3        72        B2          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3005        10          9         10        29

      NREC        ID      MONTH        DAY      YEAR      SITE      NCHAN
        47        50         10          3        72        B3          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3005        10          9         10        29

      NREC        ID      MONTH        DAY      YEAR      SITE      NCHAN
        47        50         10          3        72        B4          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3005        10          9         10        29

      NREC        ID      MONTH        DAY      YEAR      SITE      NCHAN
        47        50         10          3        72        C1          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3005        10          9         10        29

      NREC        ID      MONTH        DAY      YEAR      SITE      NCHAN
        47        50         10          3        72        C2          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3005        10          9         10        29

      NREC        ID      MONTH        DAY      YEAR      SITE      NCHAN
        47        50         10          3        72        C3          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3005        10          9         10        29

      NREC        ID      MONTH        DAY      YEAR      SITE      NCHAN
        47        50         10          3        72        C4          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3005        10          9         10        29

      NREC        ID      MONTH        DAY      YEAR      SITE      NCHAN
        47        50         10          3        72        D1          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3005        10          9         10        29

      NREC        ID      MONTH        DAY      YEAR      SITE      NCHAN
        47        50         10          3        72        D2          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3005        10          9         10        29

      NREC        ID      MONTH        DAY      YEAR      SITE      NCHAN
        47        50         10          3        72        D3          1
    LENGTH        SR       HOUR     MINUTE       SEC
      3005        10          9         10        29
    NREC       ID     MONTH      DAY      YEAR     SITE     NCHAN
     47        50       10         3        72       D4         1
   LENGTH      SR      HOUR    MINUTE      SEC
    3005       10        9        10        29

    NREC       ID     MONTH      DAY      YEAR     SITE     NCHAN
     47        50       10         3        72       E1         1
   LENGTH      SR      HOUR    MINUTE      SEC
    3005       10        9        10        29

    NREC       ID     MONTH      DAY      YEAR     SITE     NCHAN
     47        50       10         3        72       E2         1
   LENGTH      SR      HOUR    MINUTE      SEC
    3005       10        9        10        29

    NREC       ID     MONTH      DAY      YEAR     SITE     NCHAN
     47        50       10         3        72       E3         1
   LENGTH      SR      HOUR    MINUTE      SEC
    3005       10        9        10        29

    NREC       ID     MONTH      DAY      YEAR     SITE     NCHAN
     47        50       10         3        72       E4         1
   LENGTH      SR      HOUR    MINUTE      SEC
    3005       10        9        10        29

    NREC       ID     MONTH      DAY      YEAR     SITE     NCHAN
     47        50       10         3        72       F1         1
   LENGTH      SR      HOUR    MINUTE      SEC
    3005       10        9        10        29

    NREC       ID     MONTH      DAY      YEAR     SITE     NCHAN
     47        50       10         3        72       F2         1
   LENGTH      SR      HOUR    MINUTE      SEC
    3005       10        9        10        29

    NREC       ID     MONTH      DAY      YEAR     SITE     NCHAN
     47        50       10         3        72       F3         1
   LENGTH      SR      HOUR    MINUTE      SEC
    3005       10        9        10        29

    NREC       ID     MONTH      DAY      YEAR     SITE     NCHAN
     47        50       10         3        72       F4         1
   LENGTH      SR      HOUR    MINUTE      SEC
    3005       10        9        10        29

    NREC       ID     MONTH      DAY      YEAR     SITE     NCHAN
     47        51       11        24        72       A0         1
   LENGTH      SR      HOUR    MINUTE      SEC
    3001       10       10        10        19

    NREC       ID     MONTH      DAY      YEAR     SITE     NCHAN
     47        51       11        24        72       B1         1
   LENGTH      SR      HOUR    MINUTE      SEC
    3001       10       10        10        19

    NREC       ID     MONTH      DAY      YEAR     SITE     NCHAN
     47        51       11        24        72       B2         1
   LENGTH      SR      HOUR    MINUTE      SEC
    3001       10       10        10        19
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     NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
       47      51        11       24       72       B3        1
   LENGTH      SR      HOUR   MINUTE      SEC
     3001      10        10       10       19

     NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
       47      51        11       24       72       B4        1
   LENGTH      SR      HOUR   MINUTE      SEC
     3001      10        10       10       19

     NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
       47      51        11       24       72       C1        1
   LENGTH      SR      HOUR   MINUTE      SEC
     3001      10        10       10       19

     NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
       47      51        11       24       72       C2        1
   LENGTH      SR      HOUR   MINUTE      SEC
     3001      10        10       10       19

     NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
       47      51        11       24       72       C3        1
   LENGTH      SR      HOUR   MINUTE      SEC
     3001      10        10       10       19

     NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
       47      51        11       24       72       C4        1
   LENGTH      SR      HOUR   MINUTE      SEC
     3001      10        10       10       19

     NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
       47      51        11       24       72       D1        1
   LENGTH      SR      HOUR   MINUTE      SEC
     3001      10        10       10       19

     NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
       47      51        11       24       72       D2        1
   LENGTH      SR      HOUR   MINUTE      SEC
     3001      10        10       10       19

     NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
       47      51        11       24       72       D3        1
   LENGTH      SR      HOUR   MINUTE      SEC
     3001      10        10       10       19

     NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
       47      51        11       24       72       D4        1
   LENGTH      SR      HOUR   MINUTE      SEC
     3001      10        10       10       19

     NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
       47      51        11       24       72       F1        1
   LENGTH      SR      HOUR   MINUTE      SEC
     3001      10        10       10       19

     NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
       47      51        11       24       72       F2        1
   LENGTH      SR      HOUR   MINUTE      SEC
     3001      10        10       10       19
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    NREC        ID       MONTH         DAY        YEAR        SITE      NCHAN
      47        51          11          24          72          E3          1
  LENGTH        SR        HOUR      MINUTE         SEC
    3001        10          10          10          19

    NREC        ID       MONTH         DAY        YEAR        SITE      NCHAN
      47        51          11          24          72          E4          1
  LENGTH        SR        HOUR      MINUTE         SEC
    3001        10          10          10          19

    NREC        ID       MONTH         DAY        YEAR        SITE      NCHAN
      47        51          11          24          72          F1          1
  LENGTH        SR        HOUR      MINUTE         SEC
    3001        10          10          10          19

    NREC        ID       MONTH         DAY        YEAR        SITE      NCHAN
      47        51          11          24          72          F2          1
  LENGTH        SR        HOUR      MINUTE         SEC
    3001        10          10          10          19

    NREC        ID       MONTH         DAY        YEAR        SITE      NCHAN
      47        51          11          24          72          F3          1
  LENGTH        SR        HOUR      MINUTE         SEC
    3001        10          10          10          19

    NREC        ID       MONTH         DAY        YEAR        SITE      NCHAN
      47        51          11          24          72          F4          1
  LENGTH        SR        HOUR      MINUTE         SEC
    3001        10          10          10          19

    NREC        ID       MONTH         DAY        YEAR        SITE      NCHAN
      47        53           8          15          73          A0          1
  LENGTH        SR        HOUR      MINUTE         SEC
    3001        10           2          11           5

    NREC        ID       MONTH         DAY        YEAR        SITE      NCHAN
      47        53           8          15          73          B1          1
  LENGTH        SR        HOUR      MINUTE         SEC
    3001        10           2          11           5

    NREC        ID       MONTH         DAY        YEAR        SITE      NCHAN
      47        53           8          15          73          B2          1
  LENGTH        SR        HOUR      MINUTE         SEC
    3001        10           2          11           5

    NREC        ID       MONTH         DAY        YEAR        SITE      NCHAN
      47        53           8          15          73          B3          1
  LENGTH        SR        HOUR      MINUTE         SEC
    3001        10           2          11           5

    NREC        ID       MONTH         DAY        YEAR        SITE      NCHAN
      47        53           8          15          73          B4          1
  LENGTH        SR        HOUR      MINUTE         SEC
    3001        10           2          11           5

    NREC        ID       MONTH         DAY        YEAR        SITE      NCHAN
      47        53           8          15          73          C1          1
  LENGTH        SR        HOUR      MINUTE         SEC
    3001        10           2          11           5
    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      53         8        15       73        C2         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         2        11        5

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      53         8        15       73        C3         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         2        11        5

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      53         8        15       73        C4         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         2        11        5

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      53         8        15       73        D1         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         2        11        5

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      53         8        15       73        D2         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         2        11        5

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      53         8        15       73        D3         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         2        11        5

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      53         8        15       73        D4         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3001      10         2        11        5

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      54         8        28       73        A0         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3004      10         3        10       27

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      54         8        28       73        B1         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3004      10         3        10       27

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      54         8        28       73        B2         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3004      10         3        10       27

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      54         8        28       73        B3         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3004      10         3        10       27

    NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
      47      54         8        28       73        B4         1
  LENGTH      SR      HOUR    MINUTE      SEC
    3004      10         3        10       27
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     NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
       47      54         8        28       73       C1        1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       27

     NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
       47      54         8        28       73       C2        1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       27

     NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
       47      54         8        28       73       C3        1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       27

     NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
       47      54         8        28       73       C4        1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       27

     NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
       47      54         8        28       73       D1        1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       27

     NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
       47      54         8        28       73       D2        1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       27

     NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
       47      54         8        28       73       D3        1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       27

     NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
       47      54         8        28       73       D4        1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       27

     NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
       47      55         9        19       73       A0        1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       51

     NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
       47      55         9        19       73       B1        1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       51

     NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
       47      55         9        19       73       B2        1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       51

     NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
       47      55         9        19       73       B3        1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       51
     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      55         9        19       73        B4         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       51

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      55         9        19       73        C1         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       51

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      55         9        19       73        C2         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       51

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      55         9        19       73        C3         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       51

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      55         9        19       73        C4         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       51

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      55         9        19       73        D1         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       51

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      55         9        19       73        D2         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       51

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      55         9        19       73        D3         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       51

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      55         9        19       73        D4         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3004      10         3        10       51

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      56         9        27       73        A0         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3005      10         7         8       21

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      56         9        27       73        B1         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3005      10         7         8       21

     NREC      ID     MONTH       DAY     YEAR      SITE     NCHAN
       47      56         9        27       73        B2         1
   LENGTH      SR      HOUR    MINUTE      SEC
     3005      10         7         8       21
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      NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
        47       56         9         27        73        B3         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3005       10         7          8        21

      NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
        47       56         9         27        73        B4         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3005       10         7          8        21

      NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
        47       56         9         27        73        C1         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3005       10         7          8        21

      NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
        47       56         9         27        73        C2         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3005       10         7          8        21

      NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
        47       56         9         27        73        C3         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3005       10         7          8        21

      NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
        47       56         9         27        73        C4         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3005       10         7          8        21

      NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
        47       56         9         27        73        D1         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3005       10         7          8        21

      NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
        47       56         9         27        73        D2         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3005       10         7          8        21

      NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
        47       56         9         27        73        D3         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3005       10         7          8        21

      NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
        47       56         9         27        73        D4         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3005       10         7          8        21

      NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
        47       57        10         26        73        A0         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3004       10         6         10         4

      NREC       ID     MONTH        DAY      YEAR      SITE     NCHAN
        47       57        10         26        73        B1         1
    LENGTH       SR      HOUR     MINUTE       SEC
      3004       10         6         10         4
      NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
        47       57        10       26       73       B2        1
    LENGTH       SR      HOUR   MINUTE      SEC
      3004       10         6       10        4

      NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
        47       57        10       26       73       B3        1
    LENGTH       SR      HOUR   MINUTE      SEC
      3004       10         6       10        4

      NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
        47       57        10       26       73       B4        1
    LENGTH       SR      HOUR   MINUTE      SEC
      3004       10         6       10        4

      NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
        47       57        10       26       73       C1        1
    LENGTH       SR      HOUR   MINUTE      SEC
      3004       10         6       10        4

      NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
        47       57        10       26       73       C2        1
    LENGTH       SR      HOUR   MINUTE      SEC
      3004       10         6       10        4

      NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
        47       57        10       26       73       C3        1
    LENGTH       SR      HOUR   MINUTE      SEC
      3004       10         6       10        4

      NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
        47       57        10       26       73       C4        1
    LENGTH       SR      HOUR   MINUTE      SEC
      3004       10         6       10        4

      NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
        47       57        10       26       73       D1        1
    LENGTH       SR      HOUR   MINUTE      SEC
      3004       10         6       10        4

      NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
        47       57        10       26       73       D2        1
    LENGTH       SR      HOUR   MINUTE      SEC
      3004       10         6       10        4

      NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
        47       57        10       26       73       D3        1
    LENGTH       SR      HOUR   MINUTE      SEC
      3004       10         6       10        4

      NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
        47       57        10       26       73       D4        1
    LENGTH       SR      HOUR   MINUTE      SEC
      3004       10         6       10        4

      NREC       ID     MONTH      DAY     YEAR     SITE    NCHAN
        47       62         1       30       74       A0        1
    LENGTH       SR      HOUR   MINUTE      SEC
      3001       10         5        7       34
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     NREC        ID      MONTH        DAY       YEAR       SITE      NCHAN
       47        62          1         30         74         B1          1
   LENGTH        SR       HOUR     MINUTE        SEC
     3001        10          5          7         34

     NREC        ID      MONTH        DAY       YEAR       SITE      NCHAN
       47        62          1         30         74         B2          1
   LENGTH        SR       HOUR     MINUTE        SEC
     3001        10          5          7         34

     NREC        ID      MONTH        DAY       YEAR       SITE      NCHAN
       47        62          1         30         74         B3          1
   LENGTH        SR       HOUR     MINUTE        SEC
     3001        10          5          7         34

     NREC        ID      MONTH        DAY       YEAR       SITE      NCHAN
       47        62          1         30         74         B4          1
   LENGTH        SR       HOUR     MINUTE        SEC
     3001        10          5          7         34

     NREC        ID      MONTH        DAY       YEAR       SITE      NCHAN
       47        62          1         30         74         C1          1
   LENGTH        SR       HOUR     MINUTE        SEC
     3001        10          5          7         34

     NREC        ID      MONTH        DAY       YEAR       SITE      NCHAN
       47        62          1         30         74         C2          1
   LENGTH        SR       HOUR     MINUTE        SEC
     3001        10          5          7         34

     NREC        ID      MONTH        DAY       YEAR       SITE      NCHAN
       47        62          1         30         74         C3          1
   LENGTH        SR       HOUR     MINUTE        SEC
     3001        10          5          7         34

     NREC        ID      MONTH        DAY       YEAR       SITE      NCHAN
       47        62          1         30         74         C4          1
   LENGTH        SR       HOUR     MINUTE        SEC
     3001        10          5          7         34

     NREC        ID      MONTH        DAY       YEAR       SITE      NCHAN
       47        62          1         30         74         D1          1
   LENGTH        SR       HOUR     MINUTE        SEC
     3001        10          5          7         34

     NREC        ID      MONTH        DAY       YEAR       SITE      NCHAN
       47        62          1         30         74         D2          1
   LENGTH        SR       HOUR     MINUTE        SEC
     3001        10          5          7         34

     NREC        ID      MONTH        DAY       YEAR       SITE      NCHAN
       47        62          1         30         74         D3          1
   LENGTH        SR       HOUR     MINUTE        SEC
     3001        10          5          7         34

     NREC        ID      MONTH        DAY       YEAR       SITE      NCHAN
       47        62          1         30         74         D4          1
   LENGTH        SR       HOUR     MINUTE        SEC
     3001        10          5          7         34
     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       63         1        25        74        A0         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         4         7        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       63         1        25        74        B1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         4         7        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       63         1        25        74        B2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         4         7        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       63         1        25        74        B3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         4         7        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       63         1        25        74        B4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         4         7        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       63         1        25        74        C1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         4         7        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       63         1        25        74        C2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         4         7        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       63         1        25        74        C3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         4         7        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       63         1        25        74        C4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         4         7        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       63         1        25        74        D1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         4         7        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       63         1        25        74        D2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         4         7        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       63         1        25        74        D3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3001       10         4         7        30
   NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
     47      63         1        25       74       D4        1
  LENGTH     SR      HOUR    MINUTE      SEC
   3001      10         4         7       30

   NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
     36      64         7         8       74       A0        1
  LENGTH     SR      HOUR    MINUTE      SEC
   2242      10         6        10        5

   NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
     36      64         7         8       74       B1        1
  LENGTH     SR      HOUR    MINUTE      SEC
   2242      10         6        10        5

   NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
     36      64         7         8       74       B2        1
  LENGTH     SR      HOUR    MINUTE      SEC
   2242      10         6        10        5

   NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
     36      64         7         8       74       B3        1
  LENGTH     SR      HOUR    MINUTE      SEC
   2242      10         6        10        5

   NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
     36      64         7         8       74       B4        1
  LENGTH     SR      HOUR    MINUTE      SEC
   2242      10         6        10        5

   NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
     36      64         7         8       74       C1        1
  LENGTH     SR      HOUR    MINUTE      SEC
   2242      10         6        10        5

   NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
     36      64         7         8       74       C2        1
  LENGTH     SR      HOUR    MINUTE      SEC
   2242      10         6        10        5

   NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
     36      64         7         8       74       C3        1
  LENGTH     SR      HOUR    MINUTE      SEC
   2242      10         6        10        5

   NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
     36      64         7         8       74       C4        1
  LENGTH     SR      HOUR    MINUTE      SEC
   2242      10         6        10        5

   NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
     36      64         7         8       74       D1        1
  LENGTH     SR      HOUR    MINUTE      SEC
   2242      10         6        10        5

   NREC      ID     MONTH       DAY     YEAR     SITE    NCHAN
     36      64         7         8       74       D2        1
  LENGTH     SR      HOUR    MINUTE      SEC
   2242      10         6        10        5
   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     36       64          7          8        74         D3         1
 LENGTH       SR       HOUR     MINUTE       SEC
   2242       10          6         10         5

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     36       64          7          8        74         D4         1
 LENGTH       SR       HOUR     MINUTE       SEC
   2242       10          6         10         5

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       65         10          2        74         A0         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3004       10          1          8        30

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       65         10          2        74         B1         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3004       10          1          8        30

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       65         10          2        74         B2         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3004       10          1          8        30

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       65         10          2        74         B3         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3004       10          1          8        30

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       65         10          2        74         B4         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3004       10          1          8        30

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       65         10          2        74         C1         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3004       10          1          8        30

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       65         10          2        74         C2         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3004       10          1          8        30

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       65         10          2        74         C3         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3004       10          1          8        30

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       65         10          2        74         C4         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3004       10          1          8        30

   NREC       ID      MONTH        DAY      YEAR       SITE     NCHAN
     47       65         10          2        74         D1         1
 LENGTH       SR       HOUR     MINUTE       SEC
   3004       10          1          8        30
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     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       65        10         2        74        D2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3004       10         1         8        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       65        10         2        74        D3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3004       10         1         8        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       47       65        10         2        74        D4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     3004       10         1         8        30

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       38       66        12        12        70        A0         1
   LENGTH       SR      HOUR    MINUTE       SEC
     2382       10         7        12         0

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       38       66        12        12        70        B1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     2382       10         7        12         0

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       38       66        12        12        70        B2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     2382       10         7        12         0

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       38       66        12        12        70        B3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     2382       10         7        12         0

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       38       66        12        12        70        B4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     2382       10         7        12         0

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       38       66        12        12        70        C1         1
   LENGTH       SR      HOUR    MINUTE       SEC
     2382       10         7        12         0

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       38       66        12        12        70        C2         1
   LENGTH       SR      HOUR    MINUTE       SEC
     2382       10         7        12         0

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       38       66        12        12        70        C3         1
   LENGTH       SR      HOUR    MINUTE       SEC
     2382       10         7        12         0

     NREC       ID     MONTH       DAY      YEAR      SITE     NCHAN
       38       66        12        12        70        C4         1
   LENGTH       SR      HOUR    MINUTE       SEC
     2382       10         7        12         0
     NREC        ID      MONTH         DAY      YEAR        SITE       NCHAN
       38        66         12          12        70          D1           1
   LENGTH        SR       HOUR      MINUTE       SEC
     2382        10          7          12         0

     NREC        ID      MONTH         DAY      YEAR        SITE       NCHAN
       38        66         12          12        70          D2           1
   LENGTH        SR       HOUR      MINUTE       SEC
     2382        10          7          12         0

     NREC        ID      MONTH         DAY      YEAR        SITE       NCHAN
       38        66         12          12        70          D3           1
   LENGTH        SR       HOUR      MINUTE       SEC
     2382        10          7          12         0

     NREC        ID      MONTH         DAY      YEAR        SITE       NCHAN
       38        66         12          12        70          D4           1
   LENGTH        SR       HOUR      MINUTE       SEC
     2382        10          7          12         0

     NREC        ID      MONTH         DAY      YEAR        SITE       NCHAN
       38        66         12          12        70          E1           1
   LENGTH        SR       HOUR      MINUTE       SEC
     2382        10          7          12         0

     NREC        ID      MONTH         DAY      YEAR        SITE       NCHAN
       38        66         12          12        70          E2           1
   LENGTH        SR       HOUR      MINUTE       SEC
     2382        10          7          12         0

     NREC        ID      MONTH         DAY      YEAR        SITE       NCHAN
       38        66         12          12        70          E3           1
   LENGTH        SR       HOUR      MINUTE       SEC
     2382        10          7          12         0

     NREC        ID      MONTH         DAY      YEAR        SITE       NCHAN
       38        66         12          12        70          E4           1
   LENGTH        SR       HOUR      MINUTE       SEC
     2382        10          7          12         0

     NREC        ID      MONTH         DAY      YEAR        SITE       NCHAN
       38        66         12          12        70          F1           1
   LENGTH        SR       HOUR      MINUTE       SEC
     2382        10          7          12         0

     NREC        ID      MONTH         DAY      YEAR        SITE       NCHAN
       38        66         12          12        70          F2           1
   LENGTH        SR       HOUR      MINUTE       SEC
     2382        10          7          12         0

     NREC        ID      MONTH         DAY      YEAR        SITE       NCHAN
       38        66         12          12        70          F3           1
   LENGTH        SR       HOUR      MINUTE       SEC
     2382        10          7          12         0

     NREC        ID      MONTH         DAY      YEAR        SITE       NCHAN
       38        66         12          12        70          F4           1
   LENGTH        SR       HOUR      MINUTE       SEC
     2382        10          7          12         0
   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47      67         6       25       70       A0        1
 LENGTH      SR      HOUR   MINUTE      SEC
   2992      10         5       10        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47      67         6       25       70       B1        1
 LENGTH      SR      HOUR   MINUTE      SEC
   2992      10         5       10        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47      67         6       25       70       B2        1
 LENGTH      SR      HOUR   MINUTE      SEC
   2992      10         5       10        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47      67         6       25       70       B3        1
 LENGTH      SR      HOUR   MINUTE      SEC
   2992      10         5       10        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47      67         6       25       70       B4        1
 LENGTH      SR      HOUR   MINUTE      SEC
   2992      10         5       10        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47      67         6       25       70       C1        1
 LENGTH      SR      HOUR   MINUTE      SEC
   2992      10         5       10        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47      67         6       25       70       C2        1
 LENGTH      SR      HOUR   MINUTE      SEC
   2992      10         5       10        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47      67         6       25       70       C3        1
 LENGTH      SR      HOUR   MINUTE      SEC
   2992      10         5       10        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47      67         6       25       70       C4        1
 LENGTH      SR      HOUR   MINUTE      SEC
   2992      10         5       10        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47      67         6       25       70       D1        1
 LENGTH      SR      HOUR   MINUTE      SEC
   2992      10         5       10        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47      67         6       25       70       D2        1
 LENGTH      SR      HOUR   MINUTE      SEC
   2992      10         5       10        0

   NREC      ID     MONTH      DAY     YEAR     SITE    NCHAN
     47      67         6       25       70       D3        1
 LENGTH      SR      HOUR   MINUTE      SEC
   2992      10         5       10        0
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    NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
      47      67         6        25       70        D4        1
  LENGTH      SR      HOUR    MINUTE      SEC
    2992      10         5        10        0

    NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
      47      67         6        25       70        E1        1
  LENGTH      SR      HOUR    MINUTE      SEC
    2992      10         5        10        0

    NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
      47      67         6        25       70        E2        1
  LENGTH      SR      HOUR    MINUTE      SEC
    2992      10         5        10        0

    NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
      47      67         6        25       70        E3        1
  LENGTH      SR      HOUR    MINUTE      SEC
    2992      10         5        10        0

    NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
      47      67         6        25       70        E4        1
  LENGTH      SR      HOUR    MINUTE      SEC
    2992      10         5        10        0

    NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
      47      67         6        25       70        F1        1
  LENGTH      SR      HOUR    MINUTE      SEC
    2992      10         5        10        0

    NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
      47      67         6        25       70        F3        1
  LENGTH      SR      HOUR    MINUTE      SEC
    2992      10         5        10        0

    NREC      ID     MONTH       DAY     YEAR      SITE    NCHAN
      47      67         6        25       70        F4        1
  LENGTH      SR      HOUR    MINUTE      SEC
    2992      10         5        10        0
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Headers for CDC Data

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  1  1142 BM 66  2 13 2439170 49.8 N  78.1 E 28 329  0.   0
   83.7   357.2  5 10 29.9  4 57 57.6  1142 BM     66/02/13
  2439170   49.8 N   078.1 E    6.3
                      0    83.7    357.2   05-10-29.9    04-57-57.
 6   ULEDKCGIEX                                          28 ALMA-
 ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  1  1142 F1 66  2 13 2439170 49.8 N  78.1 E 28 329  0.   0
   83.7   357.2  5 10 29.9  4 57 57.6  1142 F1     66/02/13
  2439170   49.8 N   078.1 E    6.3
                      0    83.7    357.2   05-10-29.9    04-57-57
 .6   ULEDKCGIEX                                          28 ALMA
 -ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  1  1142 F2 66  2 13 2439170 49.8 N  78.1 E 28 329  0.   0
   83.7   357.2  5 10 29.9  4 57 57.6  1142 F2     66/02/13
  2439170   49.8 N   078.1 E    6.3
                      0    83.7    357.2   05-10-29.9    04-57-57
 .6   ULEDKCGIEX                                          28 ALMA
 -ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  1  1142 F3 66  2 13 2439170 49.8 N  78.1 E 28 329  0.   0
   83.7   357.2  5 10 29.9  4 57 57.6  1142 F3     66/02/13
  2439170   49.8 N   078.1 E    6.3
                      0    83.7    357.2   05-10-29.9    04-57-57
 .6   ULEDKCGIEX                                          28 ALMA
 -ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  1  1142 F4 66  2 13 2439170 49.8 N  78.1 E 28 329  0.   0
   83.7   357.2  5 10 29.9  4 57 57.6  1142 F4     66/02/13
  2439170   49.8 N   078.1 E    6.3
                      0    83.7    357.2   05-10-29.9    04-57-57
 .6   ULEDKCGIEX                                          28 ALMA
 -ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  2  2317 BM 66  3 20 2439205 49.7 N  78.0 E 28 329  0.   0
   83.8   357.3  6  2 30.4  5 49 57.4  2317 BM     66/03/20
  2439205   49.7 N   078.0 E    6.2
                      0    83.8    357.3   06-02-30.4    05-49-57
 .4   XELGYIKICK                                          28 ALMA
 -ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  2  2317 F1 66  3 20 2439205 49.7 N  78.0 E 28 329  0.   0
   83.8   357.3  6  2 30.4  5 49 57.4  2317 F1     66/03/20
  2439205   49.7 N   078.0 E    6.2
                      0    83.8    357.3   06-02-30.4    05-49-57
 .4   XELGYIKICK                                          28 ALMA
 -ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  2  2317 F2 66  3 20 2439205 49.7 N  78.0 E 28 329  0.   0
   83.8   357.3  6  2 30.4  5 49 57.4  2317 F2     66/03/20
  2439205   49.7 N   078.0 E    6.2
                      0    83.8    357.3   06-02-30.4    05-49-57
 .4   XELGYIKICK                                          28 ALMA
 -ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  2  2317 F3 66  3 20 2439205 49.7 N  78.0 E 28 329  0.   0
   83.8   357.3  6  2 30.4  5 49 57.4  2317 F3     66/03/20
  2439205   49.7 N   078.0 E    6.2
                      0    83.8    357.3   06-02-30.4    05-49-57
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     .4   XELGYIKICK                                              28 ALMA
     -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

       2  2317 F4 66   3 20 2439205 49.7 N  78.0 E 28 329  0.    0
        83.8   357.3  6  2 30.4  5 49 57.4  2317 F4      66/03/20
       2439205    49.7 N    078.0 E    6.2
                          0      83.8     357.3    06-02-30.4    05-49-57
     .4   XELGYIKICK                                              28 ALMA
     -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

       3  1174 BM 66   8 19 2439357 49.8 N  78.1 E 28 329  0.    0
        83.7   357.2  4  5 30.6  3 52 58.3  1174 BM      66/08/19
       2439357    49.8 N    078.1 E    4.7
                          0      83.7     357.2    04-05-30.6    03-52-58
     .3   KPVXPILKWU                                              28 ALMA
     -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

       3  1174 F1 66   8 19 2439357 49.8 N  78.1 E 28 329  0.    0
        83.7   357.2  4  5 30.6  3 52 58.3  1174 F1      66/08/19
       2439357    49.8 N    078.1 E    4.7
                          0      83.7     357.2    04-05-30.6    03-52-58
     .3   KPVXPILKWU                                              28 ALMA
     -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

       3  1174 F2 66   8 19 2439357 49.8 N  78.1 E 28 329  0.    0
        83.7   357.2  4  5 30.6  3 52 58.3  1174 F2      66/08/19
       2439357    49.8 N    078.1 E    4.7
                          0      83.7     357.2    04-05-30.6    03-52-58
     .3   KPVXPILKWU                                              28 ALMA
     -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

       3  1174 F3 66   8 19 2439357 49.8 N  78.1 E 28 329  0.    0
        83.7   357.2  4  5 30.6  3 52 58.3  1174 F3      66/08/19
       2439357    49.8 N    078.1 E    4.7
                          0      83.7     357.2    04-05-30.6    03-52-58
     .3   KPVXPILKWU                                              28 ALMA
     -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

       3  1174 F4 66   8 19 2439357 49.8 N  78.1 E 28 329  0.    0
        83.7   357.2  4  5 30.6  3 52 58.3  1174 F4      66/08/19
       2439357    49.8 N    078.1 E    4.7
                          0      83.7     357.2    04-05-30.6    03-52-58
     .3   KPVXPILKWU                                              28 ALMA
     -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

       4  1156 BM 66  10 19 2439418 49.7 N  78.0 E 28 329  0.    0
        83.8   357.3  4 10 30.4  3 57 57.4  1156 BM      66/10/19
       2439418    49.7 N    078.0 E    5.6
                          0      83.8     357.3    04-10-30.4    03-57-57
     .4   LYDXEKZHZK                                              28 ALMA
     -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

       4  1156 F1 66  10 19 2439418 49.7 N  78.0 E 28 329  0.    0
        83.8   357.3  4 10 30.4  3 57 57.4  1156 F1      66/10/19
       2439418    49.7 N    078.0 E    5.6
                          0      83.8     357.3    04-10-30.4    03-57-57
     .4   LYDXEKZHZK                                              28 ALMA
     -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

       4  1156 F2 66  10 19 2439418 49.7 N  78.0 E 28 329  0.    0
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   83.8    357.3  4 10 30.4  3 57 57.4  1156 F2     66/10/19
  2439418    49.7 N    078.0 E    5.6
                     0      83.8      357.3    04-10-30.4    03-57-57
 .4   LYDXEKZHZK                                              28 ALMA
-ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

  4  1156 F3 66 10 19 2439418 49.7 N  78.0 E 28 329  0.   0
   83.8    357.3  4 10 30.4  3 57 57.4  1156 F3     66/10/19
  2439418    49.7 N    078.0 E    5.6
                     0      83.8      357.3    04-10-30.4    03-57-57
 .4   LYDXEKZHZK                                              28 ALMA
-ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

  4  1156 F4 66 10 19 2439418 49.7 N  78.0 E 28 329  0.   0
   83.8    357.3  4 10 30.4  3 57 57.4  1156 F4     66/10/19
  2439418    49.7 N    078.0 E    5.6
                     0      83.8      357.3    04-10-30.4    03-57-57
 .4   LYDXEKZHZK                                              28 ALMA
-ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

  5  1603 BM 66 10 27 2439426 73.4 N  54.6 E 40 648  0.   0
   59.4      6.3  6  8  4.7  5 57 57.8  1603 BM     66/10/27
  2439426    73.4 N    054.6 E    6.3
                     0      59.4        6.3    06-08-04.7    05-57-57
 .8   DOUVLOUUDX                                              40 ARCT
TC ZONE                            648 NOVAYA ZEMLYA

  5  1603 F1 66 10 27 2439426 73.4 N  54.6 E 40 648  0.   0
   59.4      6.3  6  8  4.7  5 57 57.8  1603 F1     66/10/27
  2439426    73.4 N    054.6 E    6.3
                     0      59.4        6.3    06-08-04.7    05-57-57
 .8   DOUVLOUUDX                                              40 ARCT
TC ZONE                            648 NOVAYA ZEMLYA

  5  1603 F2 66 10 27 2439426 73.4 N  54.6 E 40 648  0.   0
   59.4      6.3  6  8  4.7  5 57 57.8  1603 F2     66/10/27
  2439426    73.4 N    054.6 E    6.3
                     0      59.4        6.3    06-08-04.7    05-57-57
 .8   DOUVLOUUDX                                              40 ARCT
TC ZONE                            648 NOVAYA ZEMLYA

  5  1603 F3 66 10 27 2439426 73.4 N  54.6 E 40 648  0.   0
   59.4      6.3  6  8  4.7  5 57 57.8  1603 F3     66/10/27
  2439426    73.4 N    054.6 E    6.3
                     0      59.4        6.3    06-08-04.7    05-57-57
 .8   DOUVLOUUDX                                              40 ARCT
TC ZONE                            648 NOVAYA ZEMLYA

  5  1603 F4 66 10 27 2439426 73.4 N  54.6 E 40 648  0.   0
   59.4      6.3  6  8  4.7  5 57 57.8  1603 F4     66/10/27
  2439426    73.4 N    054.6 E    6.3
                     0      59.4        6.3    06-08-04.7    05-57-57
 .8   DOUVLOUUDX                                              40 ARCT
TC ZONE                            648 NOVAYA ZEMLYA

  6  1691 BM 66 12  3 2439463 49.7 N  78.0 E 28 329 33.  33
   83.8    357.3  5 14 31.4  5  1 58.4  1691 BM     66/12/03
  2439463    49.7 N    078.0 E    4.9
                    33      83.8      357.3    05-14-31.4    05-01-58
 .4   WHLBDFUEOX                                              28 ALMA
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-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  6  1691 F1 66 12  3 2439463 49.7 N  78.0 E 28 329 33.  33
   83.8   357.3  5 14 31.4  5  1 58.4  1691 F1     66/12/03
  2439463    49.7 N   078.0 E   4.9
                   33    83.8    357.3   05-14-31.4   05-01-58
.4   WHLBDFUEOX                                       28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  6  1691 F2 66 12  3 2439463 49.7 N  78.0 E 28 329 33.  33
   83.8   357.3  5 14 31.4  5  1 58.4  1691 F2     66/12/03
  2439463    49.7 N   078.0 E   4.9
                   33    83.8    357.3   05-14-31.4   05-01-58
.4   WHLBDFUEOX                                       28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  6  1691 F3 66 12  3 2439463 49.7 N  78.0 E 28 329 33.  33
   83.8   357.3  5 14 31.4  5  1 58.4  1691 F3     66/12/03
  2439463    49.7 N   078.0 E   4.9
                   33    83.8    357.3   05-14-31.4   05-01-58
.4   WHLBDFUEOX                                       28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  6  1691 F4 66 12  3 2439463 49.7 N  78.0 E 28 329 33.  33
   83.8   357.3  5 14 31.4  5  1 58.4  1691 F4     66/12/03
  2439463    49.7 N   078.0 E   4.9
                   33    83.8    357.3   05-14-31.4   05-01-58
.4   WHLBDFUEOX                                       28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  7  1591 BM 66 12 18 2439478 49.9 N  77.7 E 28 329  0.   0
   83.6   357.5  5 10 29.5  4 57 57.6  1591 BM     66/12/18
  2439478    49.9 N   077.7 E   5.9
                    0    83.6    357.5   05-10-29.5   04-57-57
.6   CLPDVRRHXZ                                       28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  7  1591 F1 66 12 18 2439478 49.9 N  77.7 E 28 329  0.   0
   83.6   357.5  5 10 29.5  4 57 57.6  1591 F1     66/12/18
  2439478    49.9 N   077.7 E   5.9
                    0    83.6    357.5   05-10-29.5   04-57-57
.6   CLPDVRRHXZ                                       28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  7  1591 F2 66 12 18 2439478 49.9 N  77.7 E 28 329  0.   0
   83.6   357.5  5 10 29.5  4 57 57.6  1591 F2     66/12/18
  2439478    49.9 N   077.7 E   5.9
                    0    83.6    357.5   05-10-29.5   04-57-57
.6   CLPDVRRHXZ                                       28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  7  1591 F3 66 12 18 2439478 49.9 N  77.7 E 28 329  0.   0
   83.6   357.5  5 10 29.5  4 57 57.6  1591 F3     66/12/18
  2439478    49.9 N   077.7 E   5.9
                    0    83.6    357.5   05-10-29.5   04-57-57
.6   CLPDVRRHXZ                                       28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  7  1591 F4 66 12 18 2439478 49.9 N  77.7 E 28 329  0.   0
   83.6   357.5  5 10 29.5  4 57 57.6  1591 F4     66/12/18
   2439478    49.9 N    077.7 E    5.9
                     0      83.6      357.5    05-10-29.5    04-57-57
 .6    CLPDVRRHXZ                                              28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

   8  3153 BM 67  2 26 2439548 49.8 N  78.1 E 28 329  0.   0
    83.7   357.2  4 10 29.9  3 57 57.6  3153 BM     67/02/26
   2439548    49.8 N    078.1 E    6.0
                     0      83.7      357.2    04-10-29.9    03-57-57
 .6    PEVKXRJLTJ                                              28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

   8  3153 F1 67  2 26 2439548 49.8 N  78.1 E 28 329  0.   0
    83.7   357.2  4 10 29.9  3 57 57.6  3153 F1     67/02/26
   2439548    49.8 N    078.1 E    6.0
                     0      83.7      357.2    04-10-29.9    03-57-57
 .6    PEVKXRJLTJ                                              28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

   8  3153 F2 67  2 26 2439548 49.8 N  78.1 E 28 329  0.   0
    83.7   357.2  4 10 29.9  3 57 57.6  3153 F2     67/02/26
   2439548    49.8 N    078.1 E    6.0
                     0      83.7      357.2    04-10-29.9    03-57-57
 .6    PEVKXRJLTJ                                              28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

   8  3153 F3 67  2 26 2439548 49.8 N  78.1 E 28 329  0.   0
    83.7   357.2  4 10 29.9  3 57 57.6  3153 F3     67/02/26
   2439548    49.8 N    078.1 E    6.0
                     0      83.7      357.2    04-10-29.9    03-57-57
 .6    PEVKXRJLTJ                                              28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

   8  3153 F4 67  2 26 2439548 49.8 N  78.1 E 28 329  0.   0
    83.7   357.2  4 10 29.9  3 57 57.6  3153 F4     67/02/26
   2439548    49.8 N    078.1 E    6.0
                     0      83.7      357.2    04-10-29.9    03-57-57
 .6    PEVKXRJLTJ                                              28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

   9  3178 BM 67  3 25 2439575 49.8 N  78.1 E 28 329 33.  33
    83.7   357.2  6 10 32.2  5 57 59.9  3178 BM     67/03/25
   2439575    49.8 N    078.1 E    5.3
                    33      83.7      357.2    06-10-32.2    05-57-59
 .9    LJZCEXDRHU                                              28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

   9  3178 F1 67  3 25 2439575 49.8 N  78.1 E 28 329 33.  33
    83.7   357.2  6 10 32.2  5 57 59.9  3178 F1     67/03/25
   2439575    49.8 N    078.1 E    5.3
                    33      83.7      357.2    06-10-32.2    05-57-59
 .9    LJZCEXDRHU                                              28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

   9  3178 F2 67  3 25 2439575 49.8 N  78.1 E 28 329 33.  33
    83.7   357.2  6 10 32.2  5 57 59.9  3178 F2     67/03/25
   2439575    49.8 N    078.1 E    5.3
                    33      83.7      357.2    06-10-32.2    05-57-59
 .9    LJZCEXDRHU                                              28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR
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  9  3178 F3 67  3 25 2439575 49.8 N   78.1 E 28 329 33.   33
   83.7   357.2  6 10 32.2  5 57 59.9  3178 F3     67/03/25
  2439575   49.8 N    078.1 E    5.3
                33     83.7     357.2   06-10-32.2    05-57-59
.9   LJZCEXDRHU                                      28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

  9  3178 F4 67  3 25 2439575 49.8 N   78.1 E 28 329 33.   33
   83.7   357.2  6 10 32.2  5 57 59.9  3178 F4     67/03/25
  2439575   49.8 N    078.1 E    5.3
                33     83.7     357.2   06-10-32.2    05-57-59
.9   LJZCEXDRHU                                      28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 10  1828 BM 67  4 20 2439601 49.7 N   78.1 E 28 329  0.    0
   83.8   357.2  4 20 30.3  4  7 57.3  1828 BM     67/04/20
  2439601   49.7 N    078.1 E    5.7
                 0     83.8     357.2   04-20-30.3    04-07-57
.3   XOFBULGZCB                                      28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 10  1828 F1 67  4 20 2439601 49.7 N   78.1 E 28 329  0.    0
   83.8   357.2  4 20 30.3  4  7 57.3  1828 F1     67/04/20
  2439601   49.7 N    078.1 E    5.7
                 0     83.8     357.2   04-20-30.3    04-07-57
.3   XOFBULGZCB                                      28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 10  1828 F2 67  4 20 2439601 49.7 N   78.1 E 28 329  0.    0
   83.8   357.2  4 20 30.3  4  7 57.3  1828 F2     67/04/20
  2439601   49.7 N    078.1 E    5.7
                 0     83.8     357.2   04-20-30.3    04-07-57
.3   XOFBULGZCB                                      28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 10  1828 F3 67  4 20 2439601 49.7 N   78.1 E 28 329  0.    0
   83.8   357.2  4 20 30.3  4  7 57.3  1828 F3     67/04/20
  2439601   49.7 N    078.1 E    5.7
                 0     83.8     357.2   04-20-30.3    04-07-57
.3   XOFBULGZCB                                      28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 10  1828 F4 67  4 20 2439601 49.7 N   78.1 E 28 329  0.    0
   83.8   357.2  4 20 30.3  4  7 57.3  1828 F4     67/04/20
  2439601   49.7 N    078.1 E    5.7
                 0     83.8     357.2   04-20-30.3    04-07-57
.3   XOFBULGZCB                                      28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 11  3257 BM 67  5 28 2439639 49.8 N   78.0 E 28 329 33.   33
   83.7   357.3  4 20 36.5  4  8  4.2  3257 BM     67/05/28
  2439639   49.8 N    078.0 E    5.9
                33     83.7     357.3   04-20-36.5    04-08-04
.2   HLWXEYSWZS                                      28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 11  3257 F1 67  5 28 2439639 49.8 N   78.0 E 28 329 33.   33
   83.7   357.3  4 20 36.5  4  8  4.2  3257 F1     67/05/28
  2439639   49.8 N    078.0 E    5.9
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                    33     83.7     357.3   04-20-36.5    04-08-04
 .2    HLWXEYSWZS                                          28 ALMA
 -ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

  11  3257 F2 67  5 28 2439639 49.8 N  78.0 E 28 329 33.  33
    83.7   357.3  4 20 36.5  4  8  4.2  3257 F2    67/05/28
   2439639   49.8 N   078.0 E   5.9
                    33     83.7     357.3   04-20-36.5    04-08-04
 .2    HLWXEYSWZS                                          28 ALMA
 -ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

  11  3257 F3 67  5 28 2439639 49.8 N  78.0 E 28 329 33.  33
    83.7   357.3  4 20 36.5  4  8  4.2  3257 F3    67/05/28
   2439639   49.8 N   078.0 E   5.9
                    33     83.7     357.3   04-20-36.5    04-08-04
 .2    HLWXEYSWZS                                          28 ALMA
 -ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

  11  3257 F4 67  5 28 2439639 49.8 N  78.0 E 28 329 33.  33
    83.7   357.3  4 20 36.5  4  8  4.2  3257 F4    67/05/28
   2439639   49.8 N   078.0 E   5.9
                    33     83.7     357.3   04-20-36.5    04-08-04
 .2    HLWXEYSWZS                                          28 ALMA
 -ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

  12  3323 BM 67  6 29 2439671 49.7 N  78.0 E 28 329 33.  33
    83.8   357.3  3  9 21.8  2 56 48.8  3323 BM    67/06/29
   2439671   49.7 N   078.0 E   5.9
                    33     83.8     357.3   03-09-21.8    02-56-48
 .8    KHLRGWRJXO                                          28 ALMA
 -ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

  12  3323 F1 67  6 29 2439671 49.7 N  78.0 E 28 329 33.  33
    83.8   357.3  3  9 21.8  2 56 48.8  3323 F1    67/06/29
   2439671   49.7 N   078.0 E   5.9
                    33     83.8     357.3   03-09-21.8    02-56-48
 .8    KHLRGWRJXO                                          28 ALMA
 -ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

  12  3323 F2 67  6 29 2439671 49.7 N  78.0 E 28 329 33.  33
    83.8   357.3  3  9 21.8  2 56 48.8  3323 F2    67/06/29
   2439671   49.7 N   078.0 E   5.9
                    33     83.8     357.3   03-09-21.8    02-56-48
 .8    KHLRGWRJXO                                          28 ALMA
 -ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

  12  3323 F3 67  6 29 2439671 49.7 N  78.0 E 28 329 33.  33
    83.8   357.3  3  9 21.8  2 56 48.8  3323 F3    67/06/29
   2439671   49.7 N   078.0 E   5.9
                    33     83.8     357.3   03-09-21.8    02-56-48
 .8    KHLRGWRJXO                                          28 ALMA
 -ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

  12  3323 F4 67  6 29 2439671 49.7 N  78.0 E 28 329 33.  33
    83.8   357.3  3  9 21.8  2 56 48.8  3323 F4    67/06/29
   2439671   49.7 N   078.0 E   5.9
                    33     83.8     357.3   03-09-21.8    02-56-48
 .8    KHLPGWRJXO                                          28 ALMA
 -ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR
 13  3496 BM 67  7 15 2439687 49.8 N  78.1 E 28 329  0.   0
   83.7   357.2  3 39 29.6  3 26 57.3  3496 BM     67/07/15
  2439687   49.8 N    078.1 E    5.4
                 0      83.7     357.2   03-39-29.6   03-26-57
.3   TBXBWHDLVF                                        28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 13  3496 F1 67  7 15 2439687 49.8 N  78.1 E 28 329  0.   0
   83.7   357.2  3 39 29.6  3 26 57.3  3496 F1     67/07/15
  2439687   49.8 N    078.1 E    5.4
                 0      83.7     357.2   03-39-29.6   03-26-57
.3   TBXBWHDLVF                                        28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 13  3496 F2 67  7 15 2439687 49.8 N  78.1 E 28 329  0.   0
   83.7   357.2  3 39 29.6  3 26 57.3  3496 F2     67/07/15
  2439687   49.8 N    078.1 E    5.4
                 0      83.7     357.2   03-39-29.6   03-26-57
.3   TBXBWHDLVF                                        28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 13  3496 F3 67  7 15 2439687 49.8 N  78.1 E 28 329  0.   0
   83.7   357.2  3 39 29.6  3 26 57.3  3496 F3     67/07/15
  2439687   49.8 N    078.1 E    5.4
                 0      83.7     357.2   03-39-29.6   03-26-57
.3   TBXBWHDLVF                                        28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 13  3496 F4 67  7 15 2439687 49.8 N  78.1 E 28 329  0.   0
   83.7   357.2  3 39 29.6  3 26 57.3  3496 F4     67/07/15
  2439687   49.8 N    078.1 E    5.4
                 0      83.7     357.2   03-39-29.6   03-26-57
.3   TBXBWHDLVF                                        28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 14  3576 BM 67  8  4 2439707 49.8 N  78.0 E 28 329 33.  33
   83.7   357.3  7 10 30.5  6 57 58.2  3576 BM     67/08/04
  2439707   49.8 N    078.0 E    5.3
                33      83.7     357.3   07-10-30.5   06-57-58
.2   GVYTXJLKKO                                        28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 14  3576 F1 67  8  4 2439707 49.8 N  78.0 E 28 329 33.  33
   83.7   357.3  7 10 30.5  6 57 58.2  3576 F1     67/08/04
  2439707   49.8 N    078.0 E    5.3
                33      83.7     357.3   07-10-30.5   06-57-58
.2   GVYTXJLKKO                                        28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 14  3576 F2 67  8  4 2439707 49.8 N  78.0 E 28 329 33.  33
   83.7   357.3  7 10 30.5  6 57 58.2  3576 F2     67/08/04
  2439707   49.8 N    078.0 E    5.3
                33      83.7     357.3   07-10-30.5   06-57-58
.2   GVYTXJLKKO                                        28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 14  3576 F3 67  8  4 2439707 49.8 N  78.0 E 28 329 33.  33
   83.7   357.3  7 10 30.5  6 57 58.2  3576 F3     67/08/04
  2439707   49.8 N    078.0 E    5.3
                33      83.7     357.3   07-10-30.5   06-57-58
 .2   GVYTXJLKKO                                             28 ALMA
 -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

  14  3576 F4 67  8  4 2439707 49.8 N  78.0 E 28 329 33.  33
    83.7   357.3  7 10 30.5  6 57 58.2  3576 F4    67/08/04
   2439707   49.8 N   078.0 E   5.3
                      33    83.7    357.3   07-10-30.5   06-57-58
 .2   GVYTXJLKKO                                             28 ALMA
 -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

  15  1249 BM 67  9 16 2439750 50.0 N  77.7 E 28 329  0.   0
    83.5   357.5  4 16 29.2  4  3 57.9  1249 BM    67/09/16
   2439750   50.0 N   077.7 E   5.3
                      0     83.5    357.5   04-16-29.2   04-03-57
 .9   SPXBLKPVJB                                             28 ALMA
 -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

  15  1249 F1 67  9 16 2439750 50.0 N  77.7 E 28 329  0.   0
    83.5   357.5  4 16 29.2  4  3 57.9  1249 F1    67/09/16
   2439750   50.0 N   077.7 E   5.3
                      0     83.5    357.5   04-16-29.2   04-03-57
 .9   SPXBLKPVJB                                             28 ALMA
 -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

  15  1249 F2 67  9 16 2439750 50.0 N  77.7 E 28 329  0.   0
    83.5   357.5  4 16 29.2  4  3 57.9  1249 F2    67/09/16
   2439750   50.0 N   077.7 E   5.3
                      0     83.5    357.5   04-16-29.2   04-03-57
 .9   SPXBLKPVJB                                             28 ALMA
 -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

  15  1249 F3 67  9 16 2439750 50.0 N  77.7 E 28 329  0.   0
    83.5   357.5  4 16 29.2  4  3 57.9  1249 F3    67/09/16
   2439750   50.0 N   077.7 E   5.3
                      0     83.5    357.5   04-16-29.2   04-03-57
 .9   SPXBLKPVJB                                             28 ALMA
 -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

  15  1249 F4 67  9 16 2439750 50.0 N  77.7 E 28 329  0.   0
    83.5   357.5  4 16 29.2  4  3 57.9  1249 F4    67/09/16
   2439750   50.0 N   077.7 E   5.3
                      0     83.5    357.5   04-16-29.2   04-03-57
 .9   SPXBLKPVJB                                             28 ALMA
 -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

  16  3808 BM 67  9 22 2439756 49.9 N  77.7 E 28 329  0.   0
    83.6   357.5  5 16 29.2  5  3 57.3  3808 BM    67/09/22
   2439756   49.9 N   077.7 E   5.3
                      0     83.6    357.5   05-16-29.2   05-03-57
 .3   OLIMPXZPWF                                             28 ALMA
 -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

  16  3808 F1 67  9 22 2439756 49.9 N  77.7 E 28 329  0.   0
    83.6   357.5  5 16 29.2  5  3 57.3  3808 F1    67/09/22
   2439756   49.9 N   077.7 E   5.3
                      0     83.6    357.5   05-16-29.2   05-03-57
 .3   OLIMPXZPWF                                             28 ALMA
 -ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

  16  3808 F2 67  9 22 2439756 49.9 N  77.7 E 28 329  0.   0
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    83.6    357.5  5 16 29.2  5  3 57.3  3808 F2     67/09/22
  2439756    49.9 N    077.7 E    5.3
                   0     83.6     357.5   05-16-29.2   05-03-57
.3   OLIMPXZPWF                                          28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 16  3808 F3 67  9 22 2439756 49.9 N  77.7 E 28 329  0.   0
    83.6    357.5  5 16 29.2  5  3 57.3  3808 F3     67/09/22
  2439756    49.9 N    077.7 E    5.3
                   0     83.6     357.5   05-16-29.2   05-03-57
.3   OLIMPXZPWF                                          28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 16  3808 F4 67  9 22 2439756 49.9 N  77.7 E 28 329  0.   0
    83.6    357.5  5 16 29.2  5  3 57.3  3808 F4     67/09/22
  2439756    49.9 N    077.7 E    5.3
                   0     83.6     357.5   05-16-29.2   05-03-57
.3   OLIMPXZPWF                                          28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 17  4100 BM 67 10  6 2439770 57.7 N  65.3 E 28 326 33.  33
    75.7      4.7  7 11 45.6  6 59 56.7  4100 BM     67/10/06
  2439770    57.7 N    065.3 E    4.7
                  33     75.7       4.7   07-11-45.6   06-59-56
.7   BYCLDZMFBX                                          28 ALMA
-ATA TO LAKE BAIKAL           326 CENTRAL RUSSIA

 17  4100 F1 67 10  6 2439770 57.7 N  65.3 E 28 326 33.  33
    75.7      4.7  7 11 45.6  6 59 56.7  4100 F1     67/10/06
  2439770    57.7 N    065.3 E    4.7
                  33     75.7       4.7   07-11-45.6   06-59-56
.7   BYCLDZMFBX                                          28 ALMA
-ATA TO LAKE BAIKAL           326 CENTRAL RUSSIA

 17  4100 F2 67 10  6 2439770 57.7 N  65.3 E 28 326 33.  33
    75.7      4.7  7 11 45.6  6 59 56.7  4100 F2     67/10/06
  2439770    57.7 N    065.3 E    4.7
                  33     75.7       4.7   07-11-45.6   06-59-56
.7   BYCLDZMFBX                                          28 ALMA
-ATA TO LAKE BAIKAL           326 CENTRAL RUSSIA

 17  4100 F3 67 10  6 2439770 57.7 N  65.3 E 28 326 33.  33
    75.7      4.7  7 11 45.6  6 59 56.7  4100 F3     67/10/06
  2439770    57.7 N    065.3 E    4.7
                  33     75.7       4.7   07-11-45.6   06-59-56
.7   BYCLDZMFBX                                          28 ALMA
-ATA TO LAKE BAIKAL           326 CENTRAL RUSSIA

 17  4100 F4 67 10  6 2439770 57.7 N  65.3 E 28 326 33.  33
    75.7      4.7  7 11 45.6  6 59 56.7  4100 F4     67/10/06
  2439770    57.7 N    065.3 E    4.7
                  33     75.7       4.7   07-11-45.6   06-59-56
.7   BYCLDZMFBX                                          28 ALMA
-ATA TO LAKE BAIKAL           326 CENTRAL RUSSIA

 18  4152 BM 67 10 17 2439781 49.8 N  78.0 E 28 329  0.   0
    83.7    357.3  5 16 30.2  5  3 57.9  4152 BM     67/10/17
  2439781    49.8 N    078.0 E    5.7
                   0     83.7     357.3   05-16-30.2   05-03-57
.9   RIRUEZLHXT                                          28 ALMA
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-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 18  4152 F1 67 10 17 2439781 49.8 N  78.0 E 28 329  0.   0
   83.7    357.3  5 16 30.2  5  3 57.9  4152 F1    67/10/17
  2439781    49.8 N    078.0 E    5.7
                 0    83.7    357.3   05-16-30.2   05-03-57
.9    RIRUEZLHXT                                    28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 18  4152 F2 67 10 17 2439781 49.8 N  78.0 E 28 329  0.   0
   83.7    357.3  5 16 30.2  5  3 57.9  4152 F2    67/10/17
  2439781    49.8 N    078.0 E    5.7
                 0    83.7    357.3   05-16-30.2   05-03-57
.9    RIRUEZLHXT                                    28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 18  4152 F3 67 10 17 2439781 49.8 N  78.0 E 28 329  0.   0
   83.7    357.3  5 16 30.2  5  3 57.9  4152 F3    67/10/17
  2439781    49.8 N    078.0 E    5.7
                 0    83.7    357.3   05-16-3?.2   05-03-57
.9    RIRUEZLHXT                                    28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 18  4152 F4 67 10 17 2439781 49.8 N  78.0 E 28 329  0.   0
   83.7    357.3  5 16 30.2  5  3 57.9  4152 F4    67/10/17
  2439781    49.8 N    078.0 E    5.7
                 0    83.7    357.3   05-16-30.2   05-03-57
.9    RIRUEZLHXT                                    28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 19  4180 BM 67 10 21 2439785 73.4 N  54.8 E 40 648  0.   0
   59.4      6.2  5 10  4.8  4 59 57.8  4180 BM    67/10/21
  2439785    73.4 N    054.8 E    5.9
                 0    59.4      6.2   05-10-04.8   04-59-57
.8    WWGLXJMEYP                                    40 ARCT
IC ZONE                       648 NOVAYA ZEMLYA

 19  4180 F1 67 10 21 2439785 73.4 N  54.8 E 40 648  0.   0
   59.4      6.2  5 10  4.8  4 59 57.8  4180 F1    67/10/21
  2439785    73.4 N    054.8 E    5.9
                 0    59.4      6.2   05-10-04.8   04-59-57
.8    WWGLXJMEYP                                    40 ARCT
IC ZONE                       648 NOVAYA ZEMLYA

 19  4180 F2 67 10 21 2439785 73.4 N  54.8 E 40 648  0.   0
   59.4      6.2  5 10  4.8  4 59 57.8  4180 F2    67/10/21
  2439785    73.4 N    054.8 E    5.9
                 0    59.4      6.2   05-10-04.8   04-59-57
.8    WWGLXJMEYP                                    40 ARCT
IC ZONE                       648 NOVAYA ZEMLYA

 19  4180 F3 67 10 21 2439785 73.4 N  54.8 E 40 648  0.   0
   59.4      6.2  5 10  4.8  4 59 57.8  4180 F3    67/10/21
  2439785    73.4 N    054.8 E    5.9
                 0    59.4      6.2   05-10-04.8   04-59-57
.8    WWGLXJMEYP                                    40 ARCT
IC ZONE                       648 NOVAYA ZEMLYA

 19  4180 F4 67 10 21 2439785 73.4 N  54.8 E 40 648  0.   0
   59.4      6.2  5 10  4.8  4 59 57.8  4180 F4    67/10/21
   2439785    73.4 N    054.8 E    5.9
                     0     59.4        6.2   05-10-04.8   04-59-57
 .8   WWGLXJMEYP                                          40 ARCT
 TC ZONE                           648 NOVAYA ZEMLYA

  20  4578 BM 67 10 30 2439794 49.8 N  78.0 E 28 329  0.   0
    83.7    357.3  6 16 30.1  6  3 57.8  4578 BM     67/10/30
   2439794    49.8 N    078.0 E    5.5
                     0     83.7      357.3   06-16-30.1   06-03-57
 .8   OZRKLSJTXB                                          28 ALMA
 -ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  20  4578 F1 67 10 30 2439794 49.8 N  78.0 E 28 329  0.   0
    83.7    357.3  6 16 30.1  6  3 57.8  4578 F1     67/10/30
   2439794    49.8 N    078.0 E    5.5
                     0     83.7      357.3   06-16-30.1   06-03-57
 .8   OZRKLSJTXB                                          28 ALMA
 -ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  20  4578 F2 67 10 30 2439794 49.8 N  78.0 E 28 329  0.   0
    83.7    357.3  6 16 30.1  6  3 57.8  4578 F2     67/10/30
   2439794    49.8 N    078.0 E    5.5
                     0     83.7      357.3   06-16-30.1   06-03-57
 .8   OZRKLSJTXB                                          28 ALMA
 -ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  20  4578 F3 67 10 30 2439794 49.8 N  78.0 E 28 329  0.   0
    83.7    357.3  6 16 30.1  6  3 57.8  4578 F3     67/10/30
   2439794    49.8 N    078.0 E    5.5
                     0     83.7      357.3   06-16-30.1   06-03-57
 .8   OZRKLSJTXB                                          28 ALMA
 -ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  20  4578 F4 67 10 30 2439794 49.8 N  78.0 E 28 329  0.   0
    83.7    357.3  6 16 30.1  6  3 57.8  4578 F4     67/10/30
   2439794    49.8 N    078.0 E    5.5
                     0     83.7      357.3   06-16-30.1   06-03-57
 .8   OZRKLSJTXB                                          28 ALMA
 -ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  21  2135 BM 67 11 22 2439817 50.0 N  77.7 E 28 329  0.   0
    83.5    357.5  4 16 28.9  4  3 57.6  2135 BM     67/11/22
   2439817    50.0 N    077.7 E    4.8
                     0     83.5      357.5   04-16-28.9   04-03-57
 .6   BLHZIBDSVX                                          28 ALMA
 -ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  21  2135 F1 67 11 22 2439817 50.0 N  77.7 E 28 329  0.   0
    83.5    357.5  4 16 28.9  4  3 57.6  2135 F1     67/11/22
   2439817    50.0 N    077.7 E    4.8
                     0     83.5      357.5   04-16-28.9   04-03-57
 .6   BLHZIBDSVX                                          28 ALMA
 -ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  21  2135 F2 67 11 22 2439817 50.0 N  77.7 E 28 329  0.   0
    83.5    357.5  4 16 28.9  4  3 57.6  2135 F2     67/11/22
   2439817    50.0 N    077.7 E    4.8
                     0     83.5      357.5   04-16-28.9   04-03-57
 .6   BLHZIBDSVX                                          28 ALMA
 -ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR
 21  2135 F3 67 11 22 2439817 50.0 N   77.7 E 28 329  0.   0
   83.5    357.5  4 16 28.9  4  3 57.6  2135 F3    67/11/22
  2439817    50.0 N    077.7 E    4.8
                  0      83.5     357.5   04-16-28.9   04-03-57
.6   BLHZIBDSVX                                         28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 21  2135 F4 67 11 22 2439817 50.0 N   77.7 E 28 329  0.   0
   83.5    357.5  4 16 28.9  4  3 57.6  2135 F4    67/11/22
  2439817    50.0 N    077.7 E    4.8
                  0      83.5     357.5   04-16-28.9   04-03-57
.6   BLHZIBDSVX                                         28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 22  2837 BM 67 12  8 2439833 49.8 N   78.2 E 28 329  0.   0
   83.7    357.1  6 16 29.3  6  3 57.0  2837 BM    67/12/08
  2439833    49.8 N    078.2 E    5.4
                  0      83.7     357.1   06-16-29.3   06-03-57
.0   E7XGVYPWLM                                         28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 22  2837 F1 67 12  8 2439833 49.8 N   78.2 E 28 329  0.   0
   83.7    357.1  6 16 29.3  6  3 57.0  2837 F1    67/12/08
  2439833    49.8 N    078.2 E    5.4
                  0      83.7     357.1   06-16-29.3   06-03-57
.0   EZXGVYPWLM                                         28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 22  2837 F2 67 12  8 2439833 49.8 N   78.2 E 28 329  0.   0
   83.7    357.1  6 16 29.3  6  3 57.0  2837 F2    67/12/08
  2439833    49.8 N    078.2 E    5.4
                  0      83.7     357.1   06-16-29.3   06-03-57
.0   EZXGVYPWLM                                         28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 22  2837 F3 67 12  8 2439833 49.8 N   78.2 E 28 329  0.   0
   83.7    357.1  6 16 29.3  6  3 57.0  2837 F3    67/12/08
  2439833    49.8 N    078.2 E    5.4
                  0      83.7     357.1   06-16-29.3   06-03-57
.0   EZXGVYPWLM                                         28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 22  2837 F4 67 12  8 2439833 49.8 N   78.2 E 28 329  0.   0
   83.7    357.1  6 16 29.3  6  3 57.0  2837 F4    67/12/08
  2439833    49.8 N    078.2 E    5.4
                  0      83.7     357.1   06-16-29.3   06-03-57
.0   E7XGVYPWLM                                         28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 23  5038 BM 68  1  7 2439863 49.8 N   78.0 E 28 329  0.   0
   83.7    357.3  3 59 29.9  3 46 57.6  5038 BM    68/01/07
  2439863    49.8 N    078.0 E    5.3
                  0      83.7     357.3   03-59-29.9   03-46-57
.6   WLSCYWCXGJ                                         28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 23  5038 F1 68  1  7 2439863 49.8 N   78.0 E 28 329  0.   0
   83.7    357.3  3 59 29.9  3 46 57.6  5038 F1    68/01/07
  2439863    49.8 N    078.0 E    5.3
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               0     83.7     357.3   03-59-29.9    03-46-57
.6   WLSCYWCXGJ                                      28 ALMA
-ATA TO LAKE BAIKAL         329 EASTERN KAZAKH SSR

 23  5038 F2 68  1  7 2439863 49.8 N  78.0 E 28 329  0.   0
   83.7   357.3  3 59 29.9  3 46 57.6  5038 F2    68/01/07
  2439863   49.8 N   078.0 E   5.3
               0     83.7     357.3   03-59-29.9    03-46-57
.6   WLSCYWCXGJ                                      28 ALMA
-ATA TO LAKE BAIKAL         329 EASTERN KAZAKH SSR

 23  5038 F3 68  1  7 2439863 49.8 N  78.0 E 28 329  0.   0
   83.7   357.3  3 59 29.9  3 46 57.6  5038 F3    68/01/07
  2439863   49.8 N   078.0 E   5.3
               0     83.7     357.3   03-59-29.9    03-46-57
.6   WLSCYWCXGJ                                      28 ALMA
-ATA TO LAKE BAIKAL         329 EASTERN KAZAKH SSR

 23  5038 F4 68  1  7 2439863 49.8 N  78.0 E 28 329  0.   0
   83.7   357.3  3 59 29.9  3 46 57.6  5038 F4    68/01/07
  2439863   49.8 N   078.0 E   5.3
               0     83.7     357.3   03-59-29.9    03-46-57
.6   WLSCYWCXGJ                                      28 ALMA
-ATA TO LAKE BAIKAL         329 EASTERN KAZAKH SSR

 24  5907 BM 68  4 24 2439971 49.8 N  78.1 E 28 329 51.  51
   83.7   357.2 10 35 42.7 10 23 10.4  5907 BM    68/04/24
  2439971   49.8 N   078.1 E   4.1
              51     83.7     357.2   10-35-42.7    10-23-10
.4   BVXEYBUYLT                                      28 ALMA
-ATA TO LAKE BAIKAL         329 EASTERN KAZAKH SSR

 24  5907 F1 68  4 24 2439971 49.8 N  78.1 E 28 329 51.  51
   83.7   357.2 10 35 42.7 10 23 10.4  5907 F1    68/04/24
  2439971   49.8 N   078.1 E   4.1
              51     83.7     357.2   10-35-42.7    10-23-10
.4   BVXEYBUYLT                                      28 ALMA
-ATA TO LAKE BAIKAL         329 EASTERN KAZAKH SSR

 24  5907 F2 68  4 24 2439971 49.8 N  78.1 E 28 329 51.  51
   83.7   357.2 10 35 42.7 10 23 10.4  5907 F2    68/04/24
  2439971   49.8 N   078.1 E   4.1
              51     83.7     357.2   10-35-42.7    10-23-10
.4   BVXEYBUYLT                                      28 ALMA
-ATA TO LAKE BAIKAL         329 EASTERN KAZAKH SSR

 24  5907 F3 68  4 24 2439971 49.8 N  78.1 E 28 329 51.  51
   83.7   357.2 10 35 42.7 10 23 10.4  5907 F3    68/04/24
  2439971   49.8 N   078.1 E   4.1
              51     83.7     357.2   10-35-42.7    10-23-10
.4   BVXEYBUYLT                                      28 ALMA
-ATA TO LAKE BAIKAL         329 EASTERN KAZAKH SSR

 24  5907 F4 68  4 24 2439971 49.8 N  78.1 E 28 329 51.  51
   83.7   357.2 10 35 42.7 10 23 10.4  5907 F4    68/04/24
  2439971   49.8 N   078.1 E   4.1
              51     83.7     357.2   10-35-42.7    10-23-10
.4   BVXEYBUYLT                                      28 ALMA
-ATA TO LAKE BAIKAL         329 EASTERN KAZAKH SSR
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 25  6150 BM 68  5 21 2439998 38.8 N  65.1 E 48 714 33.  33
   94.4      6.8  3 11 39.4  2 58 16.2  6150 BM    68/05/21
  2439998   38.8 N   065.1 E   4.3
                    33    94.4       6.8   03-11-39.4   02-58-16
.2   YPDTQLOUDW                                          48 HIND
U KUSH AND PAMIR                   714 SOUTHEASTERN UZBEK SSR

 25  6150 F1 68  5 21 2439998 38.8 N  65.1 E 48 714 33.  33
   94.4      6.8  3 11 39.4  2 58 16.2  6150 F1    68/05/21
  2439998   38.8 N   065.1 E   4.3
                    33    94.4       6.8   03-11-39.4   02-58-16
.2   YPDTQLOUDW                                          48 HIND
U KUSH AND PAMIR                   714 SOUTHEASTERN UZBEK SSR

 25  6150 F2 68  5 21 2439998 38.8 N  65.1 E 48 714 33.  33
   94.4      6.8  3 11 39.4  2 58 16.2  6150 F2    68/05/21
  2439998   38.8 N   065.1 E   4.3
                    33    94.4       6.8   03-11-39.4   02-58-16
.2   YPDTQLOUDW                                          48 HIND
U KUSH AND PAMIR                   714 SOUTHEASTERN UZBEK SSR

 25  6150 F3 68  5 21 2439998 38.8 N  65.1 E 48 714 33.  33
   94.4      6.8  3 11 39.4  2 58 16.2  6150 F3    68/05/21
  2439998   38.8 N   065.1 E   4.3
                    33    94.4       6.8   03-11-39.4   02-58-16
.2   YPDTQLOUDW                                          48 HIND
U KUSH AND PAMIR                   714 SOUTHEASTERN UZBEK SSR

 25  6150 F4 68  5 21 2439998 38.8 N  65.1 E 48 714 33.  33
   94.4      6.8  3 11 39.4  2 58 16.2  6150 F4    68/05/21
  2439998   38.8 N   065.1 E   4.3
                    33    94.4       6.8   03-11-39.4   02-58-16
.2   YPDTQLOUDW                                          48 HIND
U KUSH AND PAMIR                   714 SOUTHEASTERN UZBEK SSR


 26  8162 BM 68  6 11 2440019 49.8 N  78.1 E 28 329  0.   0
  83.7   357.2  3 18 30.0  3  5 57.7  8162 BM    68/06/11
 2440019   49.8 N   078.1 E   5.3
                   0    83.7    357.2   03-18-30.0   03-05-57.
7   VVRXRBPOLZ                                        28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 26  8162 F1 68  6 11 2440019 49.8 N  78.1 E 28 329  0.   0
   83.7   357.2  3 18 30.0  3  5 57.7  8162 F1    68/06/11
  2440019   49.8 N   078.1 E   5.3
                    0     83.7    357.2   03-18-30.0   03-05-57
.7   VVRXRBPOLZ                                          28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 26  8162 F2 68  6 11 2440019 49.8 N  78.1 E 28 329  0.   0
   83.7   357.2  3 18 30.0  3  5 57.7  8162 F2    68/06/11
  2440019   49.8 N   078.1 E   5.3
                    0     83.7    357.2   03-18-30.0   03-05-57
.7   VVRXRBPOLZ                                          28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 26  8162 F3 68  6 11 2440019 49.8 N  78.1 E 28 329  0.   0
   83.7   357.2  3 18 30.0  3  5 57.7  8162 F3    68/06/11
  2440019   49.8 N   078.1 E   5.3
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                      0      83.7     357.2   03-18-30.0    03-05-57
 .7   VVRXRBPOLZ                                               28 ALMA
 -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  26  8162 F4 68  6 11 2440019 49.8 N  78.1 E 28 329  0.   0
     83.7   357.2  3 18 30.0  3  5 57.7  8162 F4      68/06/11
   2440019   49.8 N   078.1 E   5.3
                      0      83.7     357.2   03-18-30.0    03-05-57
 .7   VVRXRBPOLZ                                               28 ALMA
 -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  27  8191 BM 68  6 19 2440027 50.0 N  79.1 E 28 329  0.   0
     83.5   356.6  5 18 28.3  5  5 57.3  8191 BM      68/06/19
   2440027   50.0 N   079.1 E   5.5
                      0      83.5     356.6   05-18-28.3    05-05-57
 .3   CJXLVOEJIR                                               28 ALMA
 -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  27  8191 F1 68  6 19 2440027 50.0 N  79.1 E 28 329  0.   0
     83.5   356.6  5 18 28.3  5  5 57.3  8191 F1      68/06/19
   2440027   50.0 N   079.1 E   5.5
                      0      83.5     356.6   05-18-28.3    05-05-57
 .3   CJXLVOEJIR                                               28 ALMA
 -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  27  8191 F2 68  6 19 2440027 50.0 N  79.1 E 28 329  0.   0
     83.5   356.6  5 18 28.3  5  5 57.3  8191 F2      68/06/19
   2440027   50.0 N   079.1 E   5.5
                      0      83.5     356.6   05-18-28.3    05-05-57
 .3   CJXLVOEJIR                                               28 ALMA
 -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  27  8191 F3 68  6 19 2440027 50.0 N  79.1 E 28 329  0.   0
     83.5   356.6  5 18 28.3  5  5 57.3  8191 F3      68/06/19
   2440027   50.0 N   079.1 E   5.5
                      0      83.5     356.6   05-18-28.3    05-05-57
 .3   CJXLVOEJIR                                               28 ALMA
 -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  27  8191 F4 68  6 19 2440027 50.0 N  79.1 E 28 329  0.   0
     83.5   356.6  5 18 28.3  5  5 57.3  8191 F4      68/06/19
   2440027   50.0 N   079.1 E   5.5
                      0      83.5     356.6   05-18-28.3    05-05-57
 .3   CJXLVOEJIR                                               28 ALMA
 -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  28  6166 BM 68  7  1 2440039 47.9 N  47.8 E 30 357 33.  33
     83.0    17.2  4 14 25.3  4  1 57.2  6166 BM      68/07/01
   2440039   47.9 N   047.8 E   5.5
                     33      83.0      17.2   04-14-25.3    04-01-57
 .2   KFYLTHXCBC                                               30 MIDD
 LE EAST - CRIMEA - BALKANS       357 SOUTHWESTERN RUSSIA

  28  6166 F1 68  7  1 2440039 47.9 N  47.8 E 30 357 33.  33
     83.0    17.2  4 14 25.3  4  1 57.2  6166 F1      68/07/01
   2440039   47.9 N   047.8 E   5.5
                     33      83.0      17.2   04-14-25.3    04-01-57
 .2   KFYLTHXCBC                                               30 MIDD
 LE EAST - CRIMEA - BALKANS       357 SOUTHWESTERN RUSSIA
 28  6166 F2 68  7  1 2440039 47.9 N  47.8 E 30 357 33.  33
   83.0     17.2  4 14 25.3  4  1 57.2  6166 F2     68/07/01
  2440039    47.9 N    047.8 E    5.5
                 33     83.0      17.2   04-14-25.3   04-01-57
 .2   KFYLTHXCBC                                     30 MIDD
LE EAST - CRIMEA - BALKANS   357 SOUTHWESTERN RUSSIA

 28  6166 F3 68  7  1 2440039 47.9 N  47.8 E 30 357 33.  33
   83.0     17.2  4 14 25.3  4  1 57.2  6166 F3     68/07/01
  2440039    47.9 N    047.8 E    5.5
                 33     83.0      17.2   04-14-25.3   04-01-57
 .2   KFYLTHXCBC                                     30 MIDD
LE EAST - CRIMEA - BALKANS   357 SOUTHWESTERN RUSSIA

 28  6166 F4 68  7  1 2440039 47.9 N  47.8 E 30 357 33.  33
   83.0     17.2  4 14 25.3  4  1 57.2  6166 F4     68/07/01
  2440039    47.9 N    047.8 E    5.5
                 33     83.0      17.2   04-14-25.3   04-01-57
 .2   KFYLTHXCBC                                     30 MIDD
LE EAST - CRIMEA - BALKANS   357 SOUTHWESTERN RUSSIA

 29  6347 BM 68  7 12 2440050 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2 12 20 29.9 12  7 57.6  6347 BM     68/07/12
  2440050    49.8 N    078.1 E    5.4
                  0     83.7     357.2   12-20-29.9   12-07-57
 .6   EXMPJRPLCP                                     28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 29  6347 F1 68  7 12 2440050 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2 12 20 29.9 12  7 57.6  6347 F1     68/07/12
  2440050    49.8 N    078.1 E    5.4
                  0     83.7     357.2   12-20-29.9   12-07-57
 .6   EXMPJRPLCP                                     28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 29  6347 F2 68  7 12 2440050 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2 12 20 29.9 12  7 57.6  6347 F2     68/07/12
  2440050    49.8 N    078.1 E    5.4
                  0     83.7     357.2   12-20-29.9   12-07-57
 .6   EXMPJRPLCP                                     28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 29  6347 F3 68  7 12 2440050 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2 12 20 29.9 12  7 57.6  6347 F3     68/07/12
  2440050    49.8 N    078.1 E    5.4
                  0     83.7     357.2   12-20-29.9   12-07-57
 .6   EXMPJRPLCP                                     28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 29  6347 F4 68  7 12 2440050 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2 12 20 29.9 12  7 57.6  6347 F4     68/07/12
  2440050    49.8 N    078.1 E    5.4
                  0     83.7     357.2   12-20-29.9   12-07-57
 .6   EXMPJRPLCP                                     28 ALMA
-ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 30  6543 BM 68  8 20 2440089 50.0 N  78.0 E 28 329  0.   0
   83.5    357.3  3 45  0.0  3 32 28.8  6543 BM     68/08/20
  2440089    50.0 N    078.0 E    0.0
                  0     83.5     357.3   03-45-00.0   03-32-28
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       .8   TIPPJGLXWF                                              28 ALMA
       -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

        30  6543 F1 68  8 20 2440089 50.0 N  78.0 E 28 329  0.    0
          83.5   357.3  3 45  0.0  3 32 28.8  6543 F1     68/08/20
         2440089   50.0 N   078.0 E   0.0
                          0     83.5     357.3   03-45-00.0   03-32-28
       .8   TIPPJGLXWF                                              28 ALMA
       -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

        30  6543 F2 68  8 20 2440089 50.0 N  78.0 E 28 329  0.    0
          83.5   357.3  3 45  0.0  3 32 28.8  6543 F2     68/08/20
         2440089   50.0 N   078.0 E   0.0
                          0     83.5     357.3   03-45-00.0   03-32-28
       .8   TIPPJGLXWF                                              28 ALMA
       -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

        30  6543 F3 68  8 20 2440089 50.0 N  78.0 E 28 329  0.    0
          83.5   357.3  3 45  0.0  3 32 28.8  6543 F3     68/08/20
         2440089   50.0 N   078.0 E   0.0
                          0     83.5     357.3   03-45-00.0   03-32-28
       .8   TIPPJGLXWF                                              28 ALMA
       -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

        30  6543 F4 68  8 20 2440089 50.0 N  78.0 E 28 329  0.    0
          83.5   357.3  3 45  0.0  3 32 28.8  6543 F4     68/08/20
         2440089   50.0 N   078.0 E   0.0
                          0     83.5     357.3   03-45-00.0   03-32-28
       .8   TIPPJGLXWF                                              28 ALMA
       -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

        31  7165 BM 68  9 29 2440129 49.8 N  78.1 E 28 329 33.   33
          83.7   357.2  3 55 26.9  3 42 54.6  7165 BM     68/09/29
         2440129   49.8 N   078.1 E   6.1
                         33     83.7     357.2   03-55-26.9   03-42-54
       .6   JGPDROTCXL                                              28 ALMA
       -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

        31  7165 F1 68  9 29 2440129 49.8 N  78.1 E 28 329 33.   33
          83.7   357.2  3 55 26.9  3 42 54.6  7165 F1     68/09/29
         2440129   49.8 N   078.1 E   6.1
                         33     83.7     357.2   03-55-26.9   03-42-54
       .6   JGPDROTCXL                                              28 ALMA
       -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

        31  7165 F2 68  9 29 2440129 49.8 N  78.1 E 28 329 33.   33
          83.7   357.2  3 55 26.9  3 42 54.6  7165 F2     68/09/29
         2440129   49.8 N   078.1 E   6.1
                         33     83.7     357.2   03-55-26.9   03-42-54
       .6   JGPDROTCXL                                              28 ALMA
       -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

        31  7165 F3 68  9 29 2440129 49.8 N  78.1 E 28 329 33.   33
          83.7   357.2  3 55 26.9  3 42 54.6  7165 F3     68/09/29
         2440129   49.8 N   078.1 E   6.1
                         33     83.7     357.2   03-55-26.9   03-42-54
       .6   JGPDROTCXL                                              28 ALMA
       -ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

        31  7165 F4 68  9 29 2440129 49.8 N  78.1 E 28 329 33.   33
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```
   83.7    357.2  3 55 26.9  3 42 54.6  7165 F4     68/09/29
  2440129   49.8 N   078.1 E    6.1
                 33     83.7     357.2   03-55-26.9   03-42-54
 .6   JGPDROTCXL                                       28 ALMA
 -ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

  32  7292 BM 68 11  7 2440168 73.4 N  54.9 E 40 648  0.   0
    59.4      6.2 10 12 12.1 10  2  5.1  7292 BM     68/11/07
  2440168   73.4 N   054.9 E    6.0
                  0     59.4       6.2   10-12-12.1   10-02-05
 .1   BMXEGLTRTD                                       40 ARCT
 IC ZONE                         648 NOVAYA ZEMLYA

  32  7292 F1 68 11  7 2440168 73.4 N  54.9 E 40 648  0.   0
    59.4      6.2 10 12 12.1 10  2  5.1  7292 F1     68/11/07
  2440168   73.4 N   054.9 E    6.0
                  0     59.4       6.2   10-12-12.1   10-02-05
 .1   BMXEGLTRTD                                       40 ARCT
 IC ZONE                         648 NOVAYA ZEMLYA

  32  7292 F2 68 11  7 2440168 73.4 N  54.9 E 40 648  0.   0
    59.4      6.2 10 12 12.1 10  2  5.1  7292 F2     68/11/07
  2440168   73.4 N   054.9 E    6.0
                  0     59.4       6.2   10-12-12.1   10-02-05
 .1   BMXEGLTRTD                                       40 ARCT
 IC ZONE                         648 NOVAYA ZEMLYA

  32  7292 F3 68 11  7 2440168 73.4 N  54.9 E 40 648  0.   0
    59.4      6.2 10 12 12.1 10  2  5.1  7292 F3     68/11/07
  2440168   73.4 N   054.9 E    6.0
                  0     59.4       6.2   10-12-12.1   10-02-05
 .1   BMXEGLTRTD                                       40 ARCT
 IC ZONE                         648 NOVAYA ZEMLYA

  32  7292 F4 68 11  7 2440168 73.4 N  54.9 E 40 648  0.   0
    59.4      6.2 10 12 12.1 10  2  5.1  7292 F4     68/11/07
  2440168   73.4 N   054.9 E    6.0
                  0     59.4       6.2   10-12-12.1   10-02-05
 .1   BMXEGLTRTD                                       40 ARCT
 IC ZONE                         648 NOVAYA ZEMLYA

  33  7358 BM 68 11  9 2440170 49.8 N  78.0 E 28 329  0.   0
    83.7    357.3  3  6 29.9  2 53 57.6  7358 BM     68/11/09
  2440170   49.8 N   078.0 E    4.9
                  0     83.7     357.3   03-06-29.9   02-53-57
 .6   ILTHZJOXIG                                       28 ALMA
 -ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

  33  7358 F1 68 11  9 2440170 49.8 N  78.0 E 28 329  0.   0
    83.7    357.3  3  6 29.9  2 53 57.6  7358 F1     68/11/09
  2440170   49.8 N   078.0 E    4.9
                  0     83.7     357.3   03-06-29.9   02-53-57
 .6   ILTHZJOXIG                                       28 ALMA
 -ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

  33  7358 F2 68 11  9 2440170 49.8 N  78.0 E 28 329  0.   0
    83.7    357.3  3  6 29.9  2 53 57.6  7358 F2     68/11/09
  2440170   49.8 N   078.0 E    4.9
                  0     83.7     357.3   03-06-29.9   02-53-57
 .6   ILTHZJOXIG                                       28 ALMA
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-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 33  7358 F3 68 11  9 2440170 49.8 N  78.0 E 28 329  0.   0
   83.7    357.3  3  6 29.9  2 53 57.6  7358 F3     68/11/09
  2440170   49.8 N   078.0 E   4.9
                 0     83.7    357.3   03-06-29.9   02-53-57
.6   ILTHZJOXIG                                      28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 33  7358 F4 68 11  9 2440170 49.8 N  78.0 E 28 329  0.   0
   83.7    357.3  3  6 29.9  2 53 57.6  7358 F4     68/11/09
  2440170   49.8 N   078.0 E   4.9
                 0     83.7    357.3   03-06-29.9   02-53-57
.6   ILTHZJOXIG                                      28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 34  7489 BM 68 12 18 2440209 49.7 N  78.1 E 28 329  0.   0
   83.8    357.2  5 14 29.7  5  1 56.7  7489 BM     68/12/18
  2440209   49.7 N   078.1 E   5.2
                 0     83.8    357.2   05-14-29.7   05-01-56
.7   HMLTXIERID                                      28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 34  7489 F1 68 12 18 2440209 49.7 N  78.1 E 28 329  0.   0
   83.8    357.2  5 14 29.7  5  1 56.7  7489 F1     68/12/18
  2440209   49.7 N   078.1 E   5.2
                 0     83.8    357.2   05-14-29.7   05-01-56
.7   HMLTXIERID                                      28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 34  7489 F2 68 12 18 2440209 49.7 N  78.1 E 28 329  0.   0
   83.8    357.2  5 14 29.7  5  1 56.7  7489 F2     68/12/18
  2440209   49.7 N   078.1 E   5.2
                 0     83.8    357.2   05-14-29.7   05-01-56
.7   HMLTXIERID                                      28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 34  7489 F3 68 12 18 2440209 49.7 N  78.1 E 28 329  0.   0
   83.8    357.2  5 14 29.7  5  1 56.7  7489 F3     68/12/18
  2440209   49.7 N   078.1 E   5.2
                 0     83.8    357.2   05-14-29.7   05-01-56
.7   HMLTXIERID                                      28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 34  7489 F4 68 12 18 2440209 49.7 N  78.1 E 28 329  0.   0
   83.8    357.2  5 14 29.7  5  1 56.7  7489 F4     68/12/18
  2440209   49.7 N   078.1 E   5.2
                 0     83.8    357.2   05-14-29.7   05-01-56
.7   HMLTXIERID                                      28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 35  7558 BM 69  3  7 2440288 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  8 39 29.7  8 26 57.4  7558 BM     69/03/07
  2440288   49.8 N   078.1 E   5.5
                 0     83.7    357.2   08-39-29.7   08-26-57
.4   YKUSSMLXCM                                      28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 35  7558 F1 69  3  7 2440288 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  8 39 29.7  8 26 57.4  7558 F1     69/03/07
  2440288    49.8 N    078.1 E    5.5
                      0      83.7      357.2    08-39-29.7    08-26-57
 .4    YKUSSMLXCM                                                28 ALMA
 -ATA  TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  35   7558 F2 69   3   7 2440288 49.8 N   78.1 E 28 329   0.    0
    83.7      357.2   8 39 29.7   8 26 57.4   7558 F2      69/03/07
   2440288    49.8 N    078.1 E    5.5
                      0      83.7      357.2    08-39-29.7    08-26-57
 .4    YKUSSMLXCM                                                28 ALMA
 -ATA  TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  35   7558 F3 69   3   7 2440288 49.8 N   78.1 E 28 329   0.    0
    83.7      357.2   8 39 29.7   8 26 57.4   7558 F3      69/03/07
   2440288    49.8 N    078.1 E    5.5
                      0      83.7      357.2    08-39-29.7    08-26-57
 .4    YKUSSMLXCM                                                28 ALMA
 -ATA  TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  35   7558 F4 69   3   7 2440288 49.8 N   78.1 E 28 329   0.    0
    83.7      357.2   8 39 29.7   8 26 57.4   7558 F4      69/03/07
   2440288    49.8 N    078.1 E    5.5
                      0      83.7      357.2    08-39-29.7    08-26-57
 .4    YKUSSMLXCM                                                28 ALMA
 -ATA  TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  36   1390 BM 69   5  16 2440358 49.8 N   78.1 E 28 329   0.    0
    83.7      357.2   4 15 29.3   4   2 57.0   1390 BM      69/05/16
   2440358    49.8 N    078.1 E    5.3
                      0      83.7      357.2    04-15-29.3    04-02-57
 .0    LJWTTTRXDD                                                28 ALMA
 -ATA  TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  36   1390 F1 69   5  16 2440358 49.8 N   78.1 E 28 329   0.    0
    83.7      357.2   4 15 29.3   4   2 57.0   1390 F1      69/05/16
   2440358    49.8 N    078.1 E    5.3
                      0      83.7      357.2    04-15-29.3    04-02-57
 .0    LJWTTTRXDD                                                28 ALMA
 -ATA  TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  36   1390 F2 69   5  16 2440358 49.8 N   78.1 E 28 329   0.    0
    83.7      357.2   4 15 29.3   4   2 57.0   1390 F2      69/05/16
   2440358    49.8 N    078.1 E    5.3
                      0      83.7      357.2    04-15-29.3    04-02-57
 .0    LJWTTTRXDD                                                28 ALMA
 -ATA  TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  36   1390 F3 69   5  16 2440358 49.8 N   78.1 E 28 329   0.    0
    83.7      357.2   4 15 29.3   4   2 57.0   1390 F3      69/05/16
   2440358    49.8 N    078.1 E    5.3
                      0      83.7      357.2    04-15-29.3    04-02-57
 .0    LJWTTTRXDD                                                28 ALMA
 -ATA  TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  36   1390 F4 69   5  16 2440358 49.8 N   78.1 E 28 329   0.    0
    83.7      357.2   4 15 29.3   4   2 57.0   1390 F4      69/05/16
   2440358    49.8 N    078.1 E    5.3
                      0      83.7      357.2    04-15-29.3    04-02-57
 .0    LJWTTTRXDD                                                28 ALMA
 -ATA  TO LAKE BAIKAL               329 EASTERN KAZAKH SSR
 37  7661 BM 69  5 31 2440373 50.0 N   77.7 E 28 329  0.   0
   83.5    357.5  5 14 27.8  5  1 56.5  7661 BM     69/05/31
  2440373    50.0 N    077.7 E    5.4
                       0     83.5     357.5    05-14-27.8    05-01-56
.5   FLCGTXFEBH                                              28 ALMA
-ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 37  7661 F1 69  5 31 2440373 50.0 N   77.7 E 28 329  0.   0
   83.5    357.5  5 14 27.8  5  1 56.5  7661 F1     69/05/31
  2440373    50.0 N    077.7 E    5.4
                       0     83.5     357.5    05-14-27.8    05-01-56
.5   FLCGTXFEBH                                              28 ALMA
-ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 37  7661 F2 69  5 31 2440373 50.0 N   77.7 E 28 329  0.   0
   83.5    357.5  5 14 27.8  5  1 56.5  7661 F2     69/05/31
  2440373    50.0 N    077.7 E    5.4
                       0     83.5     357.5    05-14-27.8    05-01-56
.5   FLCGTXFEBH                                              28 ALMA
-ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 37  7661 F2 69  5 31 2440373 50.0 N   77.7 E 28 329  0.   0
   83.5    357.5  5 14 27.8  5  1 56.5  7661 F2     69/05/31
  2440373    50.0 N    077.7 E    5.4
                       0     83.5     357.5    05-14-27.8    05-01-56
.5   FLCGTXFEBH                                              28 ALMA
-ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 37  7661 F3 69  5 31 2440373 50.0 N   77.7 E 28 329  0.   0
   83.5    357.5  5 14 27.8  5  1 56.5  7661 F3     69/05/31
  2440373    50.0 N    077.7 E    5.4
                       0     83.5     357.5    05-14-27.8    05-01-56
.5   FLCGTXFEBH                                              28 ALMA
-ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 38  1502 BM 69  7  4 2440407 49.7 N   78.2 E 28 329  0.   0
   83.8    357.1  2 59 29.7  2 46 56.7  1502 BM     69/07/04
  2440407    49.7 N    078.2 E    5.3
                       0     83.8     357.1    02-59-29.7    02-46-56
.7   EHORXMLYWR                                              28 ALMA
-ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 38  1502 F1 69  7  4 2440407 49.7 N   78.2 E 28 329  0.   0
   83.8    357.1  2 59 29.7  2 46 56.7  1502 F1     69/07/04
  2440407    49.7 N    078.2 E    5.3
                       0     83.8     357.1    02-59-29.7    02-46-56
.7   EHORXMLYWR                                              28 ALMA
-ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 38  1502 F2 69  7  4 2440407 49.7 N   78.2 E 28 329  0.   0
   83.8    357.1  2 59 29.7  2 46 56.7  1502 F2     69/07/04
  2440407    49.7 N    078.2 E    5.3
                       0     83.8     357.1    02-59-29.7    02-46-56
.7   EHORXMLYWR                                              28 ALMA
-ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 38  1502 F3 69  7  4 2440407 49.7 N   78.2 E 28 329  0.   0
   83.8    357.1  2 59 29.7  2 46 56.7  1502 F3     69/07/04
  2440407    49.7 N    078.2 E    5.3
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                         0     83.8     357.1   02-59-29.7   02-46-56
 .7   EHORXMLYWR                                             28 ALMA
-ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  38  1502 F4 69  7  4 2440407 49.7 N  78.2 E 28 329  0.   0
    83.8   357.1  2 59 29.7  2 46 56.7  1502 F4    69/07/04
   2440407   49.7 N   078.2 E   5.3
                         0     83.8     357.1   02-59-29.7   02-46-56
 .7   EHORXMLYWR                                             28 ALMA
-ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  39  1524 BM 69  7 21 2440424 49.8 N  78.1 E 28 329 33.  33
    83.7   357.2 10 57  2.1 10 44 29.8  1524 BM    69/07/21
   2440424   49.8 N   078.1 E   4.3
                        33     83.7     357.2   10-57-02.1   10-44-29
 .8   KCIDFVLFXJ                                             28 ALMA
-ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  39  1524 F1 69  7 21 2440424 49.8 N  78.1 E 28 329 33.  33
    83.7   357.2 10 57  2.1 10 44 29.8  1524 F1    69/07/21
   2440424   49.8 N   078.1 E   4.3
                        33     83.7     357.2   10-57-02.1   10-44-29
 .8   KCIDFVLFXJ                                             28 ALMA
-ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  39  1524 F2 69  7 21 2440424 49.8 N  78.1 E 28 329 33.  33
    83.7   357.2 10 57  2.1 10 44 29.8  1524 F2    69/07/21
   2440424   49.8 N   078.1 E   4.3
                        33     83.7     357.2   10-57-02.1   10-44-29
 .8   KCIDFVLFXJ                                             28 ALMA
-ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  39  1524 F2 69  7 21 2440424 49.8 N  78.1 E 28 329 33.  33
    83.7   357.2 10 57  2.1 10 44 29.8  1524 F2    69/07/21
   2440424   49.8 N   078.1 E   4.3
                        33     83.7     357.2   10-57-02.1   10-44-29
 .8   KCIDFVLFXJ                                             28 ALMA
-ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  39  1524 F3 69  7 21 2440424 49.8 N  78.1 E 28 329 33.  33
    83.7   357.2 10 57  2.1 10 44 29.8  1524 F3    69/07/21
   2440424   49.8 N   078.1 E   4.3
                        33     83.7     357.2   10-57-02.1   10-44-29
 .8   KCIDFVLFXJ                                             28 ALMA
-ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  40  1668 BM 69  9 11 2440476 49.8 N  78.0 E 28 329  0.   0
    83.7   357.3  4 14 29.8  4  1 57.5  1668 BM    69/09/11
   2440476   49.8 N   078.0 E   5.0
                         0     83.7     357.3   04-14-29.8   04-01-57
 .5   JDGTOSXLGV                                             28 ALMA
-ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  40  1668 F1 69  9 11 2440476 49.8 N  78.0 E 28 329  0.   0
    83.7   357.3  4 14 29.8  4  1 57.5  1668 F1    69/09/11
   2440476   49.8 N   078.0 E   5.0
                         0     83.7     357.3   04-14-29.8   04-01-57
 .5   JDGTOSXLGV                                             28 ALMA
-ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR
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 40   1668 F2 69   9 11 2440476 49.8 N   78.0 E 28 329  0.   0
   83.7    357.3  4 14 29.8  4   1 57.5  1668 F2     69/09/11
  2440476    49.8 N    078.0 E    5.0
                  0      83.7      357.3    04-14-29.8    04-01-57
.5    JDGTOSXLGV                                          28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 40   1668 F3 69   9 11 2440476 49.8 N   78.0 E 28 329  0.   0
   83.7    357.3  4 14 29.8  4   1 57.5  1668 F3     69/09/11
  2440476    49.8 N    078.0 E    5.0
                  0      83.7      357.3    04-14-29.8    04-01-57
.5    JDGTOSXLGV                                          28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 40   1668 F4 69   9 11 2440476 49.8 N   78.0 E 28 329  0.   0
   83.7    357.3  4 14 29.8  4   1 57.5  1668 F4     69/09/11
  2440476    49.8 N    078.0 E    5.0
                  0      83.7      357.3    04-14-29.8    04-01-57
.5    JDGTOSXLGV                                          28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 41   1695 BM 69   9 26 2440491 45.8 N   42.5 E 30 357  0.   0
   83.8     21.4  7 12 27.9  6  59 55.2  1695 BM     69/09/26
  2440491    45.8 N    042.5 E    5.6
                  0      83.8       21.4    07-12-27.9    06-59-55
.2    XLBWHDRSSO                                          30 MIDD
LE EAST - CRIMEA - BALKANS   357 SOUTHWESTERN RUSSIA

 41   1695 F1 69   9 26 2440491 45.8 N   42.5 E 30 357  0.   0
   83.8     21.4  7 12 27.9  6  59 55.2  1695 F1     69/09/26
  2440491    45.8 N    042.5 E    5.6
                  0      83.8       21.4    07-12-27.9    06-59-55
.2    XLBWHDRSSO                                          30 MIDD
LE EAST - CRIMEA - BALKANS   357 SOUTHWESTERN RUSSIA

 41   1695 F2 69   9 26 2440491 45.8 N   42.5 E 30 357  0.   0
   83.8     21.4  7 12 27.9  6  59 55.2  1695 F2     69/09/26
  2440491    45.8 N    042.5 E    5.6
                  0      83.8       21.4    07-12-27.9    06-59-55
.2    XLBWHDRSSO                                          30 MIDD
LE EAST - CRIMEA - BALKANS   357 SOUTHWESTERN RUSSIA

 41   1695 F3 69   9 26 2440491 45.8 N   42.5 E 30 357  0.   0
   83.8     21.4  7 12 27.9  6  59 55.2  1695 F3     69/09/26
  2440491    45.8 N    042.5 E    5.6
                  0      83.8       21.4    07-12-27.9    06-59-55
.2    XLBWHDRSSO                                          30 MIDD
LE EAST - CRIMEA - BALKANS   357 SOUTHWESTERN RUSSIA

 41   1695 F4 69   9 26 2440491 45.8 N   42.5 E 30 357  0.   0
   83.8     21.4  7 12 27.9  6  59 55.2  1695 F4     69/09/26
  2440491    45.8 N    042.5 E    5.6
                  0      83.8       21.4    07-12-27.9    06-59-55
.2    XLBWHDRSSO                                          30 MIDD
LE EAST - CRIMEA - BALKANS   357 SOUTHWESTERN RUSSIA

 42   1741 BM 69  10  1 2440496 49.8 N   78.1 E 28 329  0.   0
   83.7    357.2  4 15 29.8  4   2 57.5  1741 BM     69/10/01
  2440496    49.8 N    078.1 E    5.3
                  0      83.7      357.2    04-15-29.8    04-02-57
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.5   CBXCVMTTVL                                        28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 42  1741 F1 69 10  1 2440496 49.8 N  78.1 E 28 329  0.   0
    83.7   357.2  4 15 29.8  4  2 57.5  1741 F1     69/10/01
  2440496   49.8 N   078.1 E   5.3
                  0     83.7    357.2   04-15-29.8   04-02-57
.5   CBXCVMTTVL                                        28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 42  1741 F2 69 10  1 2440496 49.8 N  78.1 E 28 329  0.   0
    83.7   357.2  4 15 29.8  4  2 57.5  1741 F2     69/10/01
  2440496   49.8 N   078.1 E   5.3
                  0     83.7    357.2   04-15-29.8   04-02-57
.5   CBXCVMTTVL                                        28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 42  1741 F3 69 10  1 2440496 49.8 N  78.1 E 28 329  0.   0
    83.7   357.2  4 15 29.8  4  2 57.5  1741 F3     69/10/01
  2440496   49.8 N   078.1 E   5.3
                  0     83.7    357.2   04-15-29.8   04-02-57
.5   CBXCVMTTVL                                        28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 42  1741 F4 69 10  1 2440496 49.8 N  78.1 E 28 329  0.   0
    83.7   357.2  4 15 29.8  4  2 57.5  1741 F4     69/10/01
  2440496   49.8 N   078.1 E   5.3
                  0     83.7    357.2   04-15-29.8   04-02-57
.5   CBXCVMTTVL                                        28 ALMA
-ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 43  1750 BM 69 10 14 2440509 73.4 N  54.8 E 40 648  0.   0
    59.4      6.2  7 10 12.9  7  0  5.9  1750 BM     69/10/14
  2440509   73.4 N   054.8 E   6.1
                  0     59.4      6.2   07-10-12.9   07-00-05
.9   OELRVXWPBH                                        40 ARCT
IC ZONE                        648 NOVAYA ZEMLYA

 43  1750 F1 69 10 14 2440509 73.4 N  54.8 E 40 648  0.   0
    59.4      6.2  7 10 12.9  7  0  5.9  1750 F1     69/10/14
  2440509   73.4 N   054.8 E   6.1
                  0     59.4      6.2   07-10-12.9   07-00-05
.9   OELRVXWPBH                                        40 ARCT
IC ZONE                        648 NOVAYA ZEMLYA

 43  1750 F2 69 10 14 2440509 73.4 N  54.8 E 40 648  0.   0
    59.4      6.2  7 10 12.9  7  0  5.9  1750 F2     69/10/14
  2440509   73.4 N   054.8 E   6.1
                  0     59.4      6.2   07-10-12.9   07-00-05
.9   OELRVXWPBH                                        40 ARCT
IC ZONE                        648 NOVAYA ZEMLYA

 43  1750 F3 69 10 14 2440509 73.4 N  54.8 E 40 648  0.   0
    59.4      6.2  7 10 12.9  7  0  5.9  1750 F3     69/10/14
  2440509   73.4 N   054.8 E   6.1
                  0     59.4      6.2   07-10-12.9   07-00-05
.9   OELRVXWPBH                                        40 ARCT
IC ZONE                        648 NOVAYA ZEMLYA

 43  1750 F4 69 10 14 2440509 73.4 N  54.8 E 40 648  0.   0
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      59.4      6.2  7 10 12.9  7  0  5.9  1750 F4     69/10/14
     2440509   73.4 N    054.8 E    6.1
                    0     59.4       6.2   07-10-12.9   07-00-05
   .9   OELRVXWPBH                                       40 ARCT
   IC ZONE                           648 NOVAYA ZEMLYA

    44  1774 BM 69 11 30 2440556 49.9 N  79.0 E 28 329  0.   0
      83.6   356.6  3 45 28.7  3 32 57.1  1774 BM     69/11/30
     2440556    49.9 N    079.0 E    6.0
                    0     83.6     356.6   03-45-28.7   03-32-57
   .1   WXKPHKEFEL                                       28 ALMA
   -ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

    44  1774 F1 69 11 30 2440556 49.9 N  79.0 E 28 329  0.   0
      83.6   356.6  3 45 28.7  3 32 57.1  1774 F1     69/11/30
     2440556    49.9 N    079.0 E    6.0
                    0     83.6     356.6   03-45-28.7   03-32-57
   .1   WXKPHKEFEL                                       28 ALMA
   -ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

    44  1774 F2 69 11 30 2440556 49.9 N  79.0 E 28 329  0.   0
      83.6   356.6  3 45 28.7  3 32 57.1  1774 F2     69/11/30
     2440556    49.9 N    079.0 E    6.0
                    0     83.6     356.6   03-45-28.7   03-32-57
   .1   WXKPHKEFEL                                       28 ALMA
   -ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

    44  1774 F3 69 11 30 2440556 49.9 N  79.0 E 28 329  0.   0
      83.6   356.6  3 45 28.7  3 32 57.1  1774 F3     69/11/30
     2440556    49.9 N    079.0 E    6.0
                    0     83.6     356.6   03-45-28.7   03-32-57
   .1   WXKPHKEFEL                                       28 ALMA
   -ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

    44  1774 F4 69 11 30 2440556 49.9 N  79.0 E 28 329  0.   0
      83.6   356.6  3 45 28.7  3 32 57.1  1774 F4     69/11/30
     2440556    49.9 N    079.0 E    6.0
                    0     83.6     356.6   03-45-28.7   03-32-57
   .1   WXKPHKEFEL                                       28 ALMA
   -ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

    45  2019 BM 69 12  6 2440562 43.8 N  54.8 E 29 336  0.   0
      88.3     13.6  7 15 52.0  7  2 57.7  2019 BM    69/12/06
     2440562    43.8 N    054.8 E    5.8
                    0     88.3      13.6   07-15-52.0   07-02-57
   .7   RIELEVDTXR                                       29 WEST
   ERN ASIA                          336 WESTERN KAZAKH SSR

    45  2019 F1 69 12  6 2440562 43.8 N  54.8 E 29 336  0.   0
      88.3     13.6  7 15 52.0  7  2 57.7  2019 F1    69/12/06
     2440562    43.8 N    054.8 E    5.8
                    0     88.3      13.6   07-15-52.0   07-02-57
   .7   RIELEVDTXR                                       29 WEST
   ERN ASIA                          336 WESTERN KAZAKH SSR

    45  2019 F2 69 12  6 2440562 43.8 N  54.8 E 29 336  0.   0
      88.3     13.6  7 15 52.0  7  2 57.7  2019 F2    69/12/06
     2440562    43.8 N    054.8 E    5.8
                    0     88.3      13.6   07-15-52.0   07-02-57
   .7   RIELEVDTXR                                       29 WEST
```

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 ERN ASIA                            336 WESTERN KAZAKH SSR

  45  2019 F3 69 12  6 2440562 43.8 N  54.8 E 29 336  0.   0
    88.3    13.6  7 15 52.0  7  2 57.7  2019 F3    69/12/06
   2440562   43.8 N   054.8 E   5.8
                  0     88.3     13.6   07-15-52.0   07-02-57
 .7   RIELEVDTXR                                      29 WEST
 ERN ASIA                            336 WESTERN KAZAKH SSR

  45  2019 F4 69 12  6 2440562 43.8 N  54.8 E 29 336  0.   0
    88.3    13.6  7 15 52.0  7  2 57.7  2019 F4    69/12/06
   2440562   43.8 N   054.8 E   5.8
                  0     88.3     13.6   07-15-52.0   07-02-57
 .7   RIELEVDTXR                                      29 WEST
 ERN ASIA                            336 WESTERN KAZAKH SSR

  46  2267 BM 69 12 28 2440584 50.0 N  77.7 E 28 329  0.   0
    83.5   357.5  3 59 29.2  3 46 57.9  2267 BM    69/12/28
   2440584   50.0 N   077.7 E   5.7
                  0     83.5    357.5   03-59-29.2   03-46-57
 .9   JCTZLTZDXG                                      28 ALMA
 -ATA TO LAKE BAIKAL                 329 EASTERN KAZAKH SSR

  46  2267 F1 69 12 28 2440584 50.0 N  77.7 E 28 329  0.   0
    83.5   357.5  3 59 29.2  3 46 57.9  2267 F1    69/12/28
   2440584   50.0 N   077.7 E   5.7
                  0     83.5    357.5   03-59-29.2   03-46-57
 .9   JCTZLTZDXG                                      28 ALMA
 -ATA TO LAKE BAIKAL                 329 EASTERN KAZAKH SSR

  46  2267 F2 69 12 28 2440584 50.0 N  77.7 E 28 329  0.   0
    83.5   357.5  3 59 29.2  3 46 57.9  2267 F2    69/12/28
   2440584   50.0 N   077.7 E   5.7
                  0     83.5    357.5   03-59-29.2   03-46-57
 .9   JCTZLTZDXG                                      28 ALMA
 -ATA TO LAKE BAIKAL                 329 EASTERN KAZAKH SSR

  46  2267 F3 69 12 28 2440584 50.0 N  77.7 E 28 329  0.   0
    83.5   357.5  3 59 29.2  3 46 57.9  2267 F3    69/12/28
   2440584   50.0 N   077.7 E   5.7
                  0     83.5    357.5   03-59-29.2   03-46-57
 .9   JCTZLTZDXG                                      28 ALMA
 -ATA TO LAKE BAIKAL                 329 EASTERN KAZAKH SSR

  46  2267 F4 69 12 28 2440584 50.0 N  77.7 E 28 329  0.   0
    83.5   357.5  3 59 29.2  3 46 57.9  2267 F4    69/12/28
   2440584   50.0 N   077.7 E   5.7
                  0     83.5    357.5   03-59-29.2   03-46-57
 .9   JCTZLTZDXG                                      28 ALMA
 -ATA TO LAKE BAIKAL                 329 EASTERN KAZAKH SSR

  47  2272 BM 69 12 29 2440585 49.8 N  78.1 E 28 329  0.   0
    83.7   357.2  4 14 30.9  4  1 58.6  2272 BM    69/12/29
   2440585   49.8 N   078.1 E   4.6
                  0     83.7    357.2   04-14-30.9   04-01-58
 .6   WMLWOYXRHE                                      28 ALMA
 -ATA TO LAKE BAIKAL                 329 EASTERN KAZAKH SSR

  47  2272 F1 69 12 29 2440585 49.8 N  78.1 E 28 329  0.   0
    83.7   357.2  4 14 30.9  4  1 58.6  2272 F1    69/12/29
  2440585    49.8 N    078.1 E    4.6
                   0     83.7     357.2   04-14-30.9   04-01-58
.6   WMLWOYXRHE                                         28 ALMA
-ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 47  2272 F2 69 12 29 2440585 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  4 14 30.9  4  1 58.6  2272 F2     69/12/29
  2440585    49.8 N    078.1 E    4.6
                   0     83.7     357.2   04-14-30.9   04-01-58
.6   WMLWOYXRHE                                         28 ALMA
-ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 47  2272 F3 69 12 29 2440585 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  4 14 30.9  4  1 58.6  2272 F3     69/12/29
  2440585    49.8 N    078.1 E    4.6
                   0     83.7     357.2   04-14-30.9   04-01-58
.6   WMLWOYXRHE                                         28 ALMA
-ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 47  2272 F4 69 12 29 2440585 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  4 14 30.9  4  1 58.6  2272 F4     69/12/29
  2440585    49.8 N    078.1 E    4.6
                   0     83.7     357.2   04-14-30.9   04-01-58
.6   WMLWOYXRHE                                         28 ALMA
-ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 48  2462 BM 70  7 24 2440792 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  4  9 29.6  3 56 57.3  2462 BM     70/07/24
  2440792    49.8 N    078.1 E    5.3
                   0     83.7     357.2   04-09-29.6   03-56-57
.3   VIJBLFXCFB                                         28 ALMA
-ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 48  2462 F1 70  7 24 2440792 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  4  9 29.6  3 56 57.3  2462 F1     70/07/24
  2440792    49.8 N    078.1 E    5.3
                   0     83.7     357.2   04-09-29.6   03-56-57
.3   VIJBLFXCFB                                         28 ALMA
-ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 48  2462 F2 70  7 24 2440792 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  4  9 29.6  3 56 57.3  2462 F2     70/07/24
  2440792    49.8 N    078.1 E    5.3
                   0     83.7     357.2   04-09-29.6   03-56-57
.3   VIJBLFXCFB                                         28 ALMA
-ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 48  2462 F3 70  7 24 2440792 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  4  9 29.6  3 56 57.3  2462 F3     70/07/24
  2440792    49.8 N    078.1 E    5.3
                   0     83.7     357.2   04-09-29.6   03-56-57
.3   VIJBLFXCFB                                         28 ALMA
-ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 48  2462 F4 70  7 24 2440792 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  4  9 29.6  3 56 57.3  2462 F4     70/07/24
  2440792    49.8 N    078.1 E    5.3
                   0     83.7     357.2   04-09-29.6   03-56-57
.3   VIJBLFXCFB                                         28 ALMA
-ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR
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 49  8817 BM 71  6  6 2441109 50.0 N  77.7 E 28 329  0.   0
   83.5   357.5  4 15 28.8  4  2 57.5  8817 BM     71/06/06
  2441109   50.0 N    077.7 E    5.5
                 0     83.5    357.5   04-15-28.8   04-02-57
.5   RMJXLSHGUE                                      28 ALMA
-ATA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

 49  8817 F1 71  6  6 2441109 50.0 N  77.7 E 28 329  0.   0
   83.5   357.5  4 15 28.8  4  2 57.5  8817 F1     71/06/06
  2441109   50.0 N    077.7 E    5.5
                 0     83.5    357.5   04-15-28.8   04-02-57
.5   RMJXLSHGUE                                      28 ALMA
-ATA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

 49  8817 F2 71  6  6 2441109 50.0 N  77.7 E 28 329  0.   0
   83.5   357.5  4 15 28.8  4  2 57.5  8817 F2     71/06/06
  2441109   50.0 N    077.7 E    5.5
                 0     83.5    357.5   04-15-28.8   04-02-57
.5   RMJXLSHGUE                                      28 ALMA
-ATA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

 49  8817 F3 71  6  6 2441109 50.0 N  77.7 E 28 329  0.   0
   83.5   357.5  4 15 28.8  4  2 57.5  8817 F3     71/06/06
  2441109   50.0 N    077.7 E    5.5
                 0     83.5    357.5   04-15-28.8   04-02-57
.5   RMJXLSHGUE                                      28 ALMA
-ATA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

 49  8817 F4 71  6  6 2441109 50.0 N  77.7 E 28 329  0.   0
   83.5   357.5  4 15 28.8  4  2 57.5  8817 F4     71/06/06
  2441109   50.0 N    077.7 E    5.5
                 0     83.5    357.5   04-15-28.8   04-02-57
.5   RMJXLSHGUE                                      28 ALMA
-ATA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

 50  8835 BM 71  6 30 2441133 49.9 N  79.0 E 28 329  0.   0
   83.6   356.6  4  9 28.7  3 56 57.1  8835 BM     71/06/30
  2441133   49.9 N    079.0 E    5.4
                 0     83.6    356.6   04-09-28.7   03-56-57
.1   XGLHEOOZZV                                      28 ALMA
-ATA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

 50  8835 F1 71  6 30 2441133 49.9 N  79.0 E 28 329  0.   0
   83.6   356.6  4  9 28.7  3 56 57.1  8835 F1     71/06/30
  2441133   49.9 N    079.0 E    5.4
                 0     83.6    356.6   04-09-28.7   03-56-57
.1   XGLHEOOZZV                                      28 ALMA
-ATA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

 50  8835 F2 71  6 30 2441133 49.9 N  79.0 E 28 329  0.   0
   83.6   356.6  4  9 28.7  3 56 57.1  8835 F2     71/06/30
  2441133   49.9 N    079.0 E    5.4
                 0     83.6    356.6   04-09-28.7   03-56-57
.1   XGLHEOOZZV                                      28 ALMA
-ATA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

 50  8835 F3 71  6 30 2441133 49.9 N  79.0 E 28 329  0.   0
   83.6   356.6  4  9 28.7  3 56 57.1  8835 F3     71/06/30
  2441133   49.9 N    079.0 F    5.4
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                        0     83.6     356.6   04-09-28.7   03-56-57
.1   XGLHE007ZV                                             28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 50  8835 F4 71  6 30 2441133 49.9 N  79.0 E 28 329  0.   0
   83.6   356.6  4  9 28.7  3 56 57.1  8835 F4     71/06/30
  2441133   49.9 N   079.0 E   5.4
                        0     83.6     356.6   04-09-28.7   03-56-57
.1   XGLHE007ZV                                             28 ALMA
-ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR


 51  8837 BM 71  7  2 2441135 67.3 N  63.5 E 29 335 33.  33
  66.0      4.3 17 10 46.5 16 59 56.5  8837 BM     71/07/02
 2441135   67.3 N   063.5 E   4.4
                   33     66.0       4.3   17-10-46.5   16-59-56.
5   UDESXLMUOZ                                          29 WESTE
RN ASIA                         335 URAL MOUNTAINS REGION

 51  8837 F1 71  7  2 2441135 67.3 N  63.5 E 29 335 33.  33
   66.0      4.3 17 10 46.5 16 59 56.5  8837 F1     71/07/02
  2441135   67.3 N   063.5 E   4.4
                     33     66.0       4.3   17-10-46.5   16-59-56
.5   UDESXLMUOZ                                          29 WEST
ERN ASIA                          335 URAL MOUNTAINS REGION

 51  8837 F2 71  7  2 2441135 67.3 N  63.5 E 29 335 33.  33
   66.0      4.3 17 10 46.5 16 59 56.5  8837 F2     71/07/02
  2441135   67.3 N   063.5 E   4.4
                     33     66.0       4.3   17-10-46.5   16-59-56
.5   UDESXLMUOZ                                          29 WEST
ERN ASIA                          335 URAL MOUNTAINS REGION

 51  8837 F3 71  7  2 2441135 67.3 N  63.5 E 29 335 33.  33
   66.0      4.3 17 10 46.5 16 59 56.5  8837 F3     71/07/02
  2441135   67.3 N   063.5 E   4.4
                     33     66.0       4.3   17-10-46.5   16-59-56
.5   UDESXLMUOZ                                          29 WEST
ERN ASIA                          335 URAL MOUNTAINS REGION

 51  8837 F4 71  7  2 2441135 67.3 N  63.5 E 29 335 33.  33
   66.0      4.3 17 10 46.5 16 59 56.5  8837 F4     71/07/02
  2441135   67.3 N   063.5 E   4.4
                     33     66.0       4.3   17-10-46.5   16-59-56
.5   UDESXLMUOZ                                          29 WEST
ERN ASIA                          335 URAL MOUNTAINS REGION

 52  9218 BM 71  7 10 2441143 64.1 N  55.3 E 29 335  0.   0
   68.5      8.6 17 11  5.6 16 59 59.5  9218 BM     71/07/10
  2441143   64.1 N   055.3 E   5.3
                      0     68.5       8.6   17-11-05.6   16-59-59
.5   UVFFVXWBLC                                          29 WEST
ERN ASIA                          335 URAL MOUNTAINS REGION

 52  9218 F1 71  7 10 2441143 64.1 N  55.3 E 29 335  0.   0
   68.5      8.6 17 11  5.6 16 59 59.5  9218 F1     71/07/10
  2441143   64.1 N   055.3 E   5.3
                      0     68.5       8.6   17-11-05.6   16-59-59
.5   UVFFVXWBLC                                          29 WEST
ERN ASIA                          335 URAL MOUNTAINS REGION
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 52  9218 F2 71   7 10 2441143 64.1 N  55.3 E 29 335  0.   0
   68.5     8.6 17 11  5.6 16 59 59.5  9218 F2    71/07/10
  2441143   64.1 N   055.3 E   5.3
                 0    68.5      8.6   17-11-05.6   16-59-59
.5   UVFFVXWBLC                                     29 WEST
ERN ASIA                     335 URAL MOUNTAINS REGION

 52  9218 F3 71   7 10 2441143 64.1 N  55.3 E 29 335  0.   0
   68.5     8.6 17 11  5.6 16 59 59.5  9218 F3    71/07/10
  2441143   64.1 N   055.3 E   5.3
                 0    68.5      8.6   17-11-05.6   16-59-59
.5   UVFFVXWBLC                                     29 WEST
ERN ASIA                     335 URAL MOUNTAINS REGION

 52  9218 F4 71   7 10 2441143 64.1 N  55.3 E 29 335  0.   0
   68.5     8.6 17 11  5.6 16 59 59.5  9218 F4    71/07/10
  2441143   64.1 N   055.3 E   5.3
                 0    68.5      8.6   17-11-05.6   16-59-59
.5   UVFFVXWBLC                                     29 WEST
ERN ASIA                     335 URAL MOUNTAINS REGION

 53  8713 BM 71   9 19 2441214 57.8 N  41.1 E 49 724 33.  33
   72.3    17.6 11 11 31.6 11   0  2.0  8713 BM    71/09/19
  2441214   57.8 N   041.1 E   4.5
                33    72.3     17.6   11-11-31.6   11-00-02
.0   FSLMVFXWED                                     49 NORT
HERN ASIA                    724 WESTERN RUSSIA

 53  8713 F1 71   9 19 2441214 57.8 N  41.1 E 49 724 33.  33
   72.3    17.6 11 11 31.6 11   0  2.0  8713 F1    71/09/19
  2441214   57.8 N   041.1 E   4.5
                33    72.3     17.6   11-11-31.6   11-00-02
.0   FSLMVFXWED                                     49 NORT
HERN ASIA                    724 WESTERN RUSSIA

 53  8713 F2 71   9 19 2441214 57.8 N  41.1 E 49 724 33.  33
   72.3    17.6 11 11 31.6 11   0  2.0  8713 F2    71/09/19
  2441214   57.8 N   041.1 E   4.5
                33    72.3     17.6   11-11-31.6   11-00-02
.0   FSLMVFXWED                                     49 NORT
HERN ASIA                    724 WESTERN RUSSIA

 53  8713 F3 71   9 19 2441214 57.8 N  41.1 E 49 724 33.  33
   72.3    17.6 11 11 31.6 11   0  2.0  8713 F3    71/09/19
  2441214   57.8 N   041.1 E   4.5
                33    72.3     17.6   11-11-31.6   11-00-02
.0   FSLMVFXWED                                     49 NORT
HERN ASIA                    724 WESTERN RUSSIA

 53  8713 F4 71   9 19 2441214 57.8 N  41.1 E 49 724 33.  33
   72.3    17.6 11 11 31.6 11   0  2.0  8713 F4    71/09/19
  2441214   57.8 N   041.1 E   4.5
                33    72.3     17.6   11-11-31.6   11-00-02
.0   FSLMVFXWED                                     49 NORT
HERN ASIA                    724 WESTERN RUSSIA

 54  9136 BM 71 10  4 2441229 61.6 N  47.1 E 49 724 13.  13
   69.9    13.2 10 11 15.0 10   0   .9  9136 BM    71/10/04
  2441229   61.6 N   047.1 E   5.1
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                    13      69.9      13.2   10-11-15.0   10-00-00
 .9   MHSXWUIWDL                                           49 NORT
 HERN ASIA                      724 WESTERN RUSSIA

  54  9136 F1 71 10  4 2441229 61.6 N  47.1 E 49 724 13.  13
    69.9     13.2 10 11 15.0 10  0    .9  9136 F1     71/10/04
  2441229   61.6 N   047.1 E   5.1
                    13      69.9      13.2   10-11-15.0   10-00-00
 .9   MHSXWUIWDL                                           49 NORT
 HERN ASIA                      724 WESTERN RUSSIA

  54  9136 F2 71 10  4 2441229 61.6 N  47.1 E 49 724 13.  13
    69.9     13.2 10 11 15.0 10  0    .9  9136 F2     71/10/04
  2441229   61.6 N   047.1 E   5.1
                    13      69.9      13.2   10-11-15.0   10-00-00
 .9   MHSXWUIWDL                                           49 NORT
 HERN ASIA                      724 WESTERN RUSSIA

  54  9136 F3 71 10  4 2441229 61.6 N  47.1 E 49 724 13.  13
    69.9     13.2 10 11 15.0 10  0    .9  9136 F3     71/10/04
  2441229   61.6 N   047.1 E   5.1
                    13      69.9      13.2   10-11-15.0   10-00-00
 .9   MHSXWUIWDL                                           49 NORT
 HERN ASIA                      724 WESTERN RUSSIA

  54  9136 F4 71 10  4 2441229 61.6 N  47.1 E 49 724 13.  13
    69.9     13.2 10 11 15.0 10  0    .9  9136 F4     71/10/04
  2441229   61.6 N   047.1 E   5.1
                    13      69.9      13.2   10-11-15.0   10-00-00
 .9   MHSXWUIWDL                                           49 NORT
 HERN ASIA                      724 WESTERN RUSSIA

  55  9253 BM 71 10  9 2441234 50.0 N  77.0 E 28 329  0.   0
    83.6   357.9  6 15 28.8  6  2 57.4  9253 BM     71/10/09
  2441234   50.0 N   077.0 E   5.4
                     0      83.6     357.9   06-15-28.8   06-02-57
 .4   IXZKSOUTYL                                           28 ALMA
 -ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  55  9253 F1 71 10  9 2441234 50.0 N  77.0 E 28 329  0.   0
    83.6   357.9  6 15 28.8  6  2 57.4  9253 F1     71/10/09
  2441234   50.0 N   077.0 E   5.4
                     0      83.6     357.9   06-15-28.8   06-02-57
 .4   IXZKSOUTYL                                           28 ALMA
 -ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  55  9253 F2 71 10  9 2441234 50.0 N  77.0 E 28 329  0.   0
    83.6   357.9  6 15 28.8  6  2 57.4  9253 F2     71/10/09
  2441234   50.0 N   077.0 E   5.4
                     0      83.6     357.9   06-15-28.8   06-02-57
 .4   IXZKSOUTYL                                           28 ALMA
 -ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  55  9253 F3 71 10  9 2441234 50.0 N  77.0 E 28 329  0.   0
    83.6   357.9  6 15 28.8  6  2 57.4  9253 F3     71/10/09
  2441234   50.0 N   077.0 E   5.4
                     0      83.6     357.9   06-15-28.8   06-02-57
 .4   IXZKSOUTYL                                           28 ALMA
 -ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR
 55  9253 F4 71  10   9 2441234 50.0 N   77.0 E 28 329   0.    0
   83.6    357.9   6 15 28.8   6   2 57.4  9253 F4     71/10/09
  2441234    50.0 N    077.0 E    5.4
                   0      83.6     357.9   06-15-28.8    06-02-57
 .4    IXZKSOUTYL                                          28 ALMA
 -ATA  TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 56  9222 BM 71  10 21 2441246 50.0 N   77.0 E 28 329   0.    0
   83.6    357.9   6 15 29.0   6   2 57.6  9222 BM     71/10/21
  2441246    50.0 N    077.0 E    5.6
                   0      83.6     357.9   06-15-29.0    06-02-57
 .6    ZXGUDBLGDK                                          28 ALMA
 -ATA  TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 56  9222 F1 71  10 21 2441246 50.0 N   77.0 E 28 329   0.    0
   83.6    357.9   6 15 29.0   6   2 57.6  9222 F1     71/10/21
  2441246    50.0 N    077.0 E    5.6
                   0      83.6     357.9   06-15-29.0    06-02-57
 .6    ZXGUDBLGDK                                          28 ALMA
 -ATA  TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 56  9222 F2 71  10 21 2441246 50.0 N   77.0 E 28 329   0.    0
   83.6    357.9   6 15 29.0   6   2 57.6  9222 F2     71/10/21
  2441246    50.0 N    077.0 E    5.6
                   0      83.6     357.9   06-15-29.0    06-02-57
 .6    ZXGUDBLGDK                                          28 ALMA
 -ATA  TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 56  9222 F3 71  10 21 2441246 50.0 N   77.0 E 28 329   0.    0
  83.6    357.9   6 15 29.0   6   2 57.6  9222 F3     71/10/21
 2441246    50.0 N    077.0 E    5.6
                  0      83.6     357.9   06-15-29.0    06-02-57.
 6    ZXGUDBLGDK                                          28 ALMA-
 ATA  TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 56  9222 F4 71  10 21 2441246 50.0 N   77.0 E 28 329   0.    0
  83.6    357.9   6 15 29.0   6   2 57.6  9222 F4     71/10/21
 2441246    50.0 N    077.0 E    5.6
                  0      83.6     357.9   06-15-29.0    06-02-57.
 6    ZXGUDBLGDK                                          28 ALMA-
 ATA  TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

 57  9223 BM 71  10 22 2441247 51.5 N   54.5 E 49 724   6.    6
  80.7     12.0   5 12 16.0   4 59 59.4  9223 BM     71/10/22
 2441247    51.5 N    054.5 E    5.3
                  6      80.7      12.0    05-12-16.0    04-59-59.
 4    FLXYEHYFYY                                          49 NORTH
 ERN  ASIA                        724 WESTERN RUSSIA

 57  9223 F1 71  10 22 2441247 51.5 N   54.5 E 49 724   6.    6
  80.7     12.0   5 12 16.0   4 59 59.4  9223 F1     71/10/22
 2441247    51.5 N    054.5 E    5.3
                  6      80.7      12.0    05-12-16.0    04-59-59.
 4    FLXYEHYFYY                                          49 NORTH
 ERN  ASIA                        724 WESTERN RUSSIA

 57  9223 F2 71  10 22 2441247 51.5 N   54.5 E 49 724   6.    6
  80.7     12.0   5 12 16.0   4 59 59.4  9223 F2     71/10/22
 2441247    51.5 N    054.5 E    5.3
                  6      80.7      12.0    05-12-16.0    04-59-59.
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4   FLXYEHYFYY                                           49 NORTH
ERN ASIA                          724 WESTERN RUSSIA

 57  9223 F3 71 10 22 2441247 51.5 N  54.5 E 49 724  6.   6
  80.7     12.0  5 12 16.0  4 59 59.4  9223 F3     71/10/22
 2441247   51.5 N   054.5 E   5.3
                 6    80.7      12.0  05-12-16.0   04-59-59.
4   FLXYEHYFYY                                           49 NORTH
ERN ASIA                          724 WESTERN RUSSIA

 57  9223 F4 71 10 22 2441247 51.5 N  54.5 E 49 724  6.   6
  80.7     12.0  5 12 16.0  4 59 59.4  9223 F4     71/10/22
 2441247   51.5 N   054.5 E   5.3
                 6    80.7      12.0  05-12-16.0   04-59-59.
4   FLXYEHYFYY                                           49 NORTH
ERN ASIA                          724 WESTERN RUSSIA

 58  9226 BM 71 11 29 2441285 49.7 N  78.1 E 28 329  0.   0
  83.8   357.2  6 15 29.9  6  2 56.9  9226 BM     71/11/29
 2441285   49.7 N   078.1 E   5.5
                 0    83.8     357.2  06-15-29.9   06-02-56.
9   LXGIPTGTES                                           28 ALMA-
ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 58  9226 F1 71 11 29 2441285 49.7 N  78.1 E 28 329  0.   0
  83.8   357.2  6 15 29.9  6  2 56.9  9226 F1     71/11/29
 2441285   49.7 N   078.1 E   5.5
                 0    83.8     357.2  06-15-29.9   06-02-56.
9   LXGIPTGTES                                           28 ALMA-
ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 58  9226 F2 71 11 29 2441285 49.7 N  78.1 E 28 329  0.   0
  83.8   357.2  6 15 29.9  6  2 56.9  9226 F2     71/11/29
 2441285   49.7 N   078.1 E   5.5
                 0    83.8     357.2  06-15-29.9   06-02-56.
9   LXGIPTGTES                                           28 ALMA-
ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 58  9226 F3 71 11 29 2441285 49.7 N  78.1 E 28 329  0.   0
  83.8   357.2  6 15 29.9  6  2 56.9  9226 F3     71/11/29
 2441285   49.7 N   078.1 E   5.5
                 0    83.8     357.2  06-15-29.9   06-02-56.
9   LXGIPTGTES                                           28 ALMA-
ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 58  9226 F4 71 11 29 2441285 49.7 N  78.1 E 28 329  0.   0
  83.8   357.2  6 15 29.9  6  2 56.9  9226 F4     71/11/29
 2441285   49.7 N   078.1 E   5.5
                 0    83.8     357.2  06-15-29.9   06-02-56.
9   LXGIPTGTES                                           28 ALMA-
ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 59  9336 BM 71 12 22 2441308 47.8 N  48.2 E 29 336  0.   0
  83.2     17.0  7 12 25.8  6 59 56.7  9336 BM     71/12/22
 2441308   47.8 N   048.2 E   6.0
                 0    83.2      17.0  07-12-25.8   06-59-56.
7   PXJDTUVTLZ                                           29 WESTE
RN ASIA                           336 WESTERN KAZAKH SSR

 59  9336 F1 71 12 22 2441308 47.8 N  48.2 E 29 336  0.   0
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  83.2      17.0  7 12 25.8  6 59 56.7  9336 F1     71/12/22
 2441308    47.8 N    048.2 E    6.0
                  0     83.2      17.0   07-12-25.8    06-59-56.
7   PXJDTUVTLZ                                         29 WESTE
RN ASIA                       336 WESTERN KAZAKH SSR

 59  9336 F2 71 12 22 2441308 47.8 N  48.2 E 29 336  0.   0
  83.2      17.0  7 12 25.8  6 59 56.7  9336 F2     71/12/22
 2441308    47.8 N    048.2 E    6.0
                  0     83.2      17.0   07-12-25.8    06-59-56.
7   PXJDTUVTLZ                                         29 WESTE
RN ASIA                       336 WESTERN KAZAKH SSR

 59  9336 F3 71 12 22 2441308 47.8 N  48.2 E 29 336  0.   0
  83.2      17.0  7 12 25.8  6 59 56.7  9336 F3     71/12/22
 2441308    47.8 N    048.2 E    6.0
                  0     83.2      17.0   07-12-25.8    06-59-56.
7   PXJDTUVTLZ                                         29 WESTE
RN ASIA                       336 WESTERN KAZAKH SSR

 59  9336 F4 71 12 22 2441308 47.8 N  48.2 E 29 336  0.   0
  83.2      17.0  7 12 25.8  6 59 56.7  9336 F4     71/12/22
 2441308    47.8 N    048.2 E    6.0
                  0     83.2      17.0   07-12-25.8    06-59-56.
7   PXJDTUVTLZ                                         29 WESTE
RN ASIA                       336 WESTERN KAZAKH SSR

 60  9339 BM 71 12 30 2441316 47.9 N  78.1 E 28 329  0.   0
  85.6     357.1  6 33 30.6  6 20 48.5  9339 BM     71/12/30
 2441316    47.9 N    078.1 E    5.8
                  0     85.6     357.1   06-33-30.6    06-20-48.
5   EXLKKFEZIR                                         28 ALMA-
ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 60  9339 F1 71 12 30 2441316 47.9 N  78.1 E 28 329  0.   0
  85.6     357.1  6 33 30.6  6 20 48.5  9339 F1     71/12/30
 2441316    47.9 N    078.1 E    5.8
                  0     85.6     357.1   06-33-30.6    06-20-48.
5   EXLKKFEZIR                                         28 ALMA-
ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 60  9339 F2 71 12 30 2441316 47.9 N  78.1 E 28 329  0.   0
  85.6     357.1  6 33 30.6  6 20 48.5  9339 F2     71/12/30
 2441316    47.9 N    078.1 E    5.8
                  0     85.6     357.1   06-33-30.6    06-20-48.
5   EXLKKFEZIR                                         28 ALMA-
ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 60  9339 F3 71 12 30 2441316 47.9 N  78.1 E 28 329  0.   0
  85.6     357.1  6 33 30.6  6 20 48.5  9339 F3     71/12/30
 2441316    47.9 N    078.1 E    5.8
                  0     85.6     357.1   06-33-30.6    06-20-48.
5   EXLKKFEZIR                                         28 ALMA-
ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 60  9339 F4 71 12 30 2441316 47.9 N  78.1 E 28 329  0.   0
  85.6     357.1  6 33 30.6  6 20 48.5  9339 F4     71/12/30
 2441316    47.9 N    078.1 E    5.8
                  0     85.6     357.1   06-33-30.6    06-20-48.
5   EXLKKFEZIR                                         28 ALMA-
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ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 61  9788 BM 72  2 10 2441358 50.0 N  79.0 E 28 329  0.   0
  83.5   356.6  5 15 28.8  5  2 57.8  9788 BM     72/02/10
 2441358    50.0 N    079.0 E    5.5
                     0      83.5     356.6   05-15-28.8    05-02-57.
8    GEECLXWCIS                                          28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 61  9788 F1 72  2 10 2441358 50.0 N  79.0 E 28 329  0.   0
  83.5   356.6  5 15 28.8  5  2 57.8  9788 F1     72/02/10
 2441358    50.0 N    079.0 E    5.5
                     0      83.5     356.6   05-15-28.8    05-02-57.
8    GEECLXWCIS                                          28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 61  9788 F2 72  2 10 2441358 50.0 N  79.0 E 28 329  0.   0
  83.5   356.6  5 15 28.8  5  2 57.8  9788 F2     72/02/10
 2441358    50.0 N    079.0 E    5.5
                     0      83.5     356.6   05-15-28.8    05-02-57.
8    GEECLXWCIS                                          28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 61  9788 F3 72  2 10 2441358 50.0 N  79.0 E 28 329  0.   0
  83.5   356.6  5 15 28.8  5  2 57.8  9788 F3     72/02/10
 2441358    50.0 N    079.0 E    5.5
                     0      83.5     356.6   05-15-28.8    05-02-57.
8    GEECLXWCIS                                          28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 61  9788 F4 72  2 10 2441358 50.0 N  79.0 E 28 329  0.   0
  83.5   356.6  5 15 28.8  5  2 57.8  9788 F4     72/02/10
 2441358    50.0 N    079.0 E    5.5
                     0      83.5     356.6   05-15-28.8    05-02-57.
8    GEECLXWCIS                                          28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 62  9791 BM 72  3 10 2441387 50.0 N  78.0 E 28 329  0.   0
  83.5   357.3  5  9 30.2  4 56 59.0  9791 BM     72/03/10
 2441387    50.0 N    078.0 E    5.5
                     0      83.5     357.3   05-09-30.2    04-56-59.
0    DXLVJJYZMZ                                          28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 62  9791 F1 72  3 10 2441387 50.0 N  78.0 E 28 329  0.   0
  83.5   357.3  5  9 30.2  4 56 59.0  9791 F1     72/03/10
 2441387    50.0 N    078.0 E    5.5
                     0      83.5     357.3   05-09-30.2    04-56-59.
0    DXLVJJYZMZ                                          28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 62  9791 F2 72  3 10 2441387 50.0 N  78.0 E 28 329  0.   0
  83.5   357.3  5  9 30.2  4 56 59.0  9791 F2     72/03/10
 2441387    50.0 N    078.0 E    5.5
                     0      83.5     357.3   05-09-30.2    04-56-59.
0    DXLVJJYZMZ                                          28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 62  9791 F3 72  3 10 2441387 50.0 N  78.0 E 28 329  0.   0
  83.5   357.3  5  9 30.2  4 56 59.0  9791 F3     72/03/10
 2441387    50.0 N    078.0 E    5.5
                  0     83.5     357.3    05-09-30.2    04-56-59.
0   DXLVJJYZMZ                                             28 ALMA-
ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 62  9791 F4 72  3 10 2441387 50.0 N  78.0 E 28 329  0.   0
  83.5   357.3  5  9 30.2  4 56 59.0  9791 F4     72/03/10
 2441387    50.0 N    078.0 E    5.5
                  0     83.5     357.3    05-09-30.2    04-56-59.
0   DXLVJJYZMZ                                             28 ALMA-
ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 63  9792 BM 72  3 28 2441405 49.7 N  78.1 E 28 329  0.   0
  83.8   357.2  4 34 30.2  4 21 57.2  9792 BM     72/03/28
 2441405    49.7 N    078.1 E    5.2
                  0     83.8     357.2    04-34-30.2    04-21-57.
2   VELMSGXWPF                                             28 ALMA-
ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 63  9792 F1 72  3 28 2441405 49.7 N  78.1 E 28 329  0.   0
  83.8   357.2  4 34 30.2  4 21 57.2  9792 F1     72/03/28
 2441405    49.7 N    078.1 E    5.2
                  0     83.8     357.2    04-34-30.2    04-21-57.
2   VELMSGXWPF                                             28 ALMA-
ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 63  9792 F2 72  3 28 2441405 49.7 N  78.1 E 28 329  0.   0
  83.8   357.2  4 34 30.2  4 21 57.2  9792 F2     72/03/28
 2441405    49.7 N    078.1 E    5.2
                  0     83.8     357.2    04-34-30.2    04-21-57.
2   VELMSGXWPF                                             28 ALMA-
ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 63  9792 F3 72  3 28 2441405 49.7 N  78.1 E 28 329  0.   0
  83.8   357.2  4 34 30.2  4 21 57.2  9792 F3     72/03/28
 2441405    49.7 N    078.1 E    5.2
                  0     83.8     357.2    04-34-30.2    04-21-57.
2   VELMSGXWPF                                             28 ALMA-
ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 63  9792 F4 72  3 28 2441405 49.7 N  78.1 E 28 329  0.   0
  83.8   357.2  4 34 30.2  4 21 57.2  9792 F4     72/03/28
 2441405    49.7 N    078.1 E    5.2
                  0     83.8     357.2    04-34-30.2    04-21-57.
2   VELMSGXWPF                                             28 ALMA-
ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

 64  9757 BM 72  4 11 2441419 37.3 N  62.0 E 29 340 33.  33
  95.6      9.4  6 13 28.0  5 59 59.5  9757 BM     72/04/11
 2441419    37.3 N    062.0 E    4.9
                 33     95.6       9.4    06-13-28.0    05-59-59.
5   GOXVKLDJZG                                             29 WESTE
RN ASIA                       340 TURKMEN SSR

 64  9757 F1 72  4 11 2441419 37.3 N  62.0 E 29 340 33.  33
  95.6      9.4  6 13 28.0  5 59 59.5  9757 F1     72/04/11
 2441419    37.3 N    062.0 E    4.9
                 33     95.6       9.4    06-13-28.0    05-59-59.
5   GOXVKLDJZG                                             29 WESTE
RN ASIA                       340 TURKMEN SSR
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   64  9757 F2 72   4 11 2441419 37.3 N   62.0 E 29 340 33.  33
    95.6       9.4  6 13 28.0  5 59 59.5  9757 F2     72/04/11
   2441419    37.3 N    062.0 E    4.9
                   33      95.6       9.4   06-13-28.0   05-59-59.
  5   GOXVKLDJZG                                           29 WESTE
  RN ASIA                        340 TURKMEN SSR

   64  9757 F3 72   4 11 2441419 37.3 N   62.0 E 29 340 33.  33
    95.6       9.4  6 13 28.0  5 59 59.5  9757 F3     72/04/11
   2441419    37.3 N    062.0 E    4.9
                   33      95.6       9.4   06-13-28.0   05-59-59.
  5   GOXVKLDJZG                                           29 WESTE
  RN ASIA                        340 TURKMEN SSR

   64  9757 F4 72   4 11 2441419 37.3 N   62.0 E 29 340 33.  33
    95.6       9.4  6 13 28.0  5 59 59.5  9757 F4     72/04/11
   2441419    37.3 N    062.0 E    4.9
                   33      95.6       9.4   06-13-28.0   05-59-59.
  5   GOXVKLDJZG                                           29 WESTE
  RN ASIA                        340 TURKMEN SSR

   65  9950 BM 72   6  7 2441476 49.8 N   78.2 E 28 329  0.   0
    83.7    357.1  1 40 29.9  1 27 57.6  9950 BM     72/06/07
   2441476    49.8 N    078.2 E    5.5
                    0      83.7     357.1   01-40-29.9   01-27-57.
  6   VTBGLHWWPX                                           28 ALMA-
  ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

   65  9950 F1 72   6  7 2441476 49.8 N   78.2 E 28 329  0.   0
    83.7    357.1  1 40 29.9  1 27 57.6  9950 F1     72/06/07
   2441476    49.8 N    078.2 E    5.5
                    0      83.7     357.1   01-40-29.9   01-27-57.
  6   VTBGLHWWPX                                           28 ALMA-
  ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

   65  9950 F2 72   6  7 2441476 49.8 N   78.2 E 28 329  0.   0
    83.7    357.1  1 40 29.9  1 27 57.6  9950 F2     72/06/07
   2441476    49.8 N    078.2 E    5.5
                    0      83.7     357.1   01-40-29.9   01-27-57.
  6   VTBGLHWWPX                                           28 ALMA-
  ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

   65  9950 F3 72   6  7 2441476 49.8 N   78.2 E 28 329  0.   0
    83.7    357.1  1 40 29.9  1 27 57.6  9950 F3     72/06/07
   2441476    49.8 N    078.2 E    5.5
                    0      83.7     357.1   01-40-29.9   01-27-57.
  6   VTBGLHWWPX                                           28 ALMA-
  ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

   65  9950 F4 72   6  7 2441476 49.8 N   78.2 E 28 329  0.   0
    83.7    357.1  1 40 29.9  1 27 57.6  9950 F4     72/06/07
   2441476    49.8 N    078.2 E    5.5
                    0      83.7     357.1   01-40-29.9   01-27-57.
  6   VTBGLHWWPX                                           28 ALMA-
  ATA TO LAKE BAIKAL             329 EASTERN KAZAKH SSR

   66 10178 BM 72   7  9 2441508 52.0 N   31.0 E 49 724 33.  33
    75.0      25.7  7 12  4.2  7  0 19.2 10178 BM     72/07/09
   2441508    52.0 N    031.0 E    4.6
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                 33     75.0      25.7   07-12-04.2   07-00-19.
 2   IFBVKLCXZP                                           49 NORTH
 ERN ASIA                      724 WESTERN RUSSIA

  66 10178 F1 72  7  9 2441508 52.0 N  31.0 E 49 724 33.  33
   75.0     25.7  7 12  4.2  7  0 19.2 10178 F1     72/07/09
  2441508   52.0 N   031.0 E   4.6
                 33     75.0      25.7   07-12-04.2   07-00-19.
 2   IFBVKLCXZP                                           49 NORTH
 ERN ASIA                      724 WESTERN RUSSIA

  66 10178 F2 72  7  9 2441508 52.0 N  31.0 E 49 724 33.  33
   75.0     25.7  7 12  4.2  7  0 19.2 10178 F2     72/07/09
  2441508   52.0 N   031.0 E   4.6
                 33     75.0      25.7   07-12-04.2   07-00-19.
 2   IFBVKLCXZP                                           49 NORTH
 ERN ASIA                      724 WESTERN RUSSIA

  66 10178 F3 72  7  9 2441508 52.0 N  31.0 E 49 724 33.  33
   75.0     25.7  7 12  4.2  7  0 19.2 10178 F3     72/07/09
  2441508   52.0 N   031.0 E   4.6
                 33     75.0      25.7   07-12-04.2   07-00-19.
 2   IFBVKLCXZP                                           49 NORTH
 ERN ASIA                      724 WESTERN RUSSIA

  66 10178 F4 72  7  9 2441508 52.0 N  31.0 E 49 724 33.  33
   75.0     25.7  7 12  4.2  7  0 19.2 10178 F4     72/07/09
  2441508   52.0 N   031.0 F   4.6
                 33     75.0      25.7   07-12-04.2   07-00-19.
 2   IFBVKLCXZP                                           49 NORTH
 ERN ASIA                      724 WESTERN RUSSIA

  67 10192 BM 72  8 16 2441546 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  3 29 30.0  3 16 57.7 10192 BM     72/08/16
  2441546   49.8 N   078.1 E   5.2
                  0     83.7     357.2   03-29-30.0   03-16-57.
 7   GWPVKLXOCM                                           28 ALMA-
 ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  67 10192 F1 72  8 16 2441546 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  3 29 30.0  3 16 57.7 10192 F1     72/08/16
  2441546   49.8 N   078.1 E   5.2
                  0     83.7     357.2   03-29-30.0   03-16-57.
 7   GWPVKLXOCM                                           28 ALMA-
 ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  67 10192 F2 72  8 16 2441546 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  3 29 30.0  3 16 57.7 10192 F2     72/08/16
  2441546   49.8 N   078.1 F   5.2
                  0     83.7     357.2   03-29-30.0   03-16-57.
 7   GWPVKLXOCM                                           28 ALMA-
 ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR

  67 10192 F3 72  8 16 2441546 49.8 N  78.1 E 28 329  0.   0
   83.7    357.2  3 29 30.0  3 16 57.7 10192 F3     72/08/16
  2441546   49.8 N   078.1 E   5.2
                  0     83.7     357.2   03-29-30.0   03-16-57.
 7   GWPVKLXOCM                                           28 ALMA-
 ATA TO LAKE BAIKAL            329 EASTERN KAZAKH SSR
 67 10192 F4 72  8 16 2441546 49.8 N  78.1 E 28 329  0.   0
  83.7    357.2  3 29 30.0  3 16 57.7 10192 F4     72/08/16
 2441546    49.8 N    078.1 E    5.2
                  0      83.7      357.2    03-29-30.0    03-16-57.
7   GWPVKLXOCM                                          28 ALMA-
ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

 68 10195 BM 72  8 20 2441550 49.5 N  48.2 E 29 336  0.   0
  81.6     16.5  3 12 19.5  2 59 58.6 10195 BM     72/08/20
 2441550    49.5 N    048.2 E    5.7
                  0      81.6       16.5    03-12-19.5    02-59-58.
6   FCTSXZZGDL                                          29 WESTE
RN ASIA                           336 WESTERN KAZAKH SSR

 68 10195 F1 72  8 20 2441550 49.5 N  48.2 E 29 336  0.   0
  81.6     16.5  3 12 19.5  2 59 58.6 10195 F1     72/08/20
 2441550    49.5 N    048.2 E    5.7
                  0      81.6       16.5    03-12-19.5    02-59-58.
6   FCTSXZZGDL                                          29 WESTE
RN ASIA                           336 WESTERN KAZAKH SSR

 68 10195 F2 72  8 20 2441550 49.5 N  48.2 E 29 336  0.   0
  81.6     16.5  3 12 19.5  2 59 58.6 10195 F2     72/08/20
 2441550    49.5 N    048.2 E    5.7
                  0      81.6       16.5    03-12-19.5    02-59-58.
6   FCTSXZZGDL                                          29 WESTE
RN ASIA                           336 WESTERN KAZAKH SSR

 68 10195 F3 72  8 20 2441550 49.5 N  48.2 E 29 336  0.   0
  81.6     16.5  3 12 19.5  2 59 58.6 10195 F3     72/08/20
 2441550    49.5 N    048.2 E    5.7
                  0      81.6       16.5    03-12-19.5    02-59-58.
6   FCTSXZZGDL                                          29 WESTE
RN ASIA                           336 WESTERN KAZAKH SSR

 68 10195 F4 72  8 20 2441550 49.5 N  48.2 E 29 336  0.   0
  81.6     16.5  3 12 19.5  2 59 58.6 10195 F4     72/08/20
 2441550    49.5 N    048.2 E    5.7
                  0      81.6       16.5    03-12-19.5    02-59-58.
6   FCTSXZZGDL                                          29 WESTE
RN ASIA                           336 WESTERN KAZAKH SSR

 69 10197 BM 72  8 28 2441558 73.3 N  55.1 E 40 648  0.   0
  59.5      6.1  6 10  4.3  5 59 56.5 10197 BM     72/08/28
 2441558    73.3 N    055.1 E    6.3
                  0      59.5        6.1    06-10-04.3    05-59-56.
5   PBFRIJLFJX                                          40 ARCTI
C ZONE                            648 NOVAYA ZEMLYA

 69 10197 F1 72  8 28 2441558 73.3 N  55.1 E 40 648  0.   0
  59.5      6.1  6 10  4.3  5 59 56.5 10197 F1     72/08/28
 2441558    73.3 N    055.1 E    6.3
                  0      59.5        6.1    06-10-04.3    05-59-56.
5   PBFRIJLFJX                                          40 ARCTI
C ZONE                            648 NOVAYA ZEMLYA

 69 10197 F2 72  8 28 2441558 73.3 N  55.1 E 40 648  0.   0
  59.5      6.1  6 10  4.3  5 59 56.5 10197 F2     72/08/28
 2441558    73.3 N    055.1 E    6.3
                  0      59.5        6.1    06-10-04.3    05-59-56.
 5   PBFRIJLFJX                                                40 ARCTI
 C ZONE                                  648 NOVAYA ZEMLYA

  69 10197 F3 72  8 28 2441558 73.3 N  55.1 E 40 648  0.   0
   59.5      6.1  6 10  4.3  5 59 56.5 10197 F3     72/08/28
  2441558    73.3 N    055.1 E    6.3
                   0     59.5       6.1   06-10-04.3   05-59-56.
 5   PBFRIJLFJX                                                40 ARCTI
 C ZONE                                  648 NOVAYA ZEMLYA

  69 10197 F4 72  8 28 2441558 73.3 N  55.1 E 40 648  0.   0
   59.5      6.1  6 10  4.3  5 59 56.5 10197 F4     72/08/28
  2441558    73.3 N    055.1 E    6.3
                   0     59.5       6.1   06-10-04.3   05-59-56.
 5   PBFRIJLFJX                                                40 ARCTI
 C ZONE                                  648 NOVAYA ZEMLYA

  70 10199 BM 72  9  2 2441563 50.0 N  77.7 E 28 329  0.   0
   83.5   357.5  9  9 29.5  8 56 58.2 10199 BM     72/09/02
  2441563    50.0 N    077.7 E    5.1
                   0     83.5     357.5   09-09-29.5   08-56-58.
 2   SIVZXBOJLB                                                28 ALMA-
 ATA TO LAKE BAIKAL                      329 EASTERN KAZAKH SSR

  70 10199 F1 72  9  2 2441563 50.0 N  77.7 E 28 329  0.   0
   83.5   357.5  9  9 29.5  8 56 58.2 10199 F1     72/09/02
  2441563    50.0 N    077.7 E    5.1
                   0     83.5     357.5   09-09-29.5   08-56-58.
 2   SIVZXBOJLB                                                28 ALMA-
 ATA TO LAKE BAIKAL                      329 EASTERN KAZAKH SSR

  70 10199 F2 72  9  2 2441563 50.0 N  77.7 E 28 329  0.   0
   83.5   357.5  9  9 29.5  8 56 58.2 10199 F2     72/09/02
  2441563    50.0 N    077.7 E    5.1
                   0     83.5     357.5   09-09-29.5   08-56-58.
 2   SIVZXBOJLB                                                28 ALMA-
 ATA TO LAKE BAIKAL                      329 EASTERN KAZAKH SSR

  70 10199 F3 72  9  2 2441563 50.0 N  77.7 E 28 329  0.   0
   83.5   357.5  9  9 29.5  8 56 58.2 10199 F3     72/09/02
  2441563    50.0 N    077.7 E    5.1
                   0     83.5     357.5   09-09-29.5   08-56-58.
 2   SIVZXBOJLB                                                28 ALMA-
 ATA TO LAKE BAIKAL                      329 EASTERN KAZAKH SSR

  70 10199 F4 72  9  2 2441563 50.0 N  77.7 E 28 329  0.   0
   83.5   357.5  9  9 29.5  8 56 58.2 10199 F4     72/09/02
  2441563    50.0 N    077.7 E    5.1
                   0     83.5     357.5   09-09-29.5   08-56-58.
 2   SIVZXBOJLB                                                28 ALMA-
 ATA TO LAKE BAIKAL                      329 EASTERN KAZAKH SSR

  71 10201 BM 72  9  4 2441565 67.7 N  33.4 E 49 724  7.   7
   61.9     16.2  7 10 26.6  7  0  3.4 10201 BM     72/09/04
  2441565    67.7 N    033.4 E    4.6
                   7     61.9      16.2   07-10-26.6   07-00-03.
 4   LFBUCEXEFH                                                49 NORTH
 ERN ASIA                                724 WESTERN RUSSIA

  71 10201 F1 72  9  4 2441565 67.7 N  33.4 E 49 724  7.   7
  61.9     16.2  7 10 26.6  7  0  3.4 10201 F1     72/09/04
 2441565   67.7 N   033.4 E   4.6
                 7     61.9      16.2   07-10-26.6   07-00-03.
4   LFBUCEXEFH                                        49 NORTH
ERN ASIA                    724 WESTERN RUSSIA

 71 10201 F2 72  9  4 2441565 67.7 N  33.4 E 49 724  7.   7
  61.9     16.2  7 10 26.6  7  0  3.4 10201 F2     72/09/04
 2441565   67.7 N   033.4 E   4.6
                 7     61.9      16.2   07-10-26.6   07-00-03.
4   LFBUCEXEFH                                        49 NORTH
ERN ASIA                    724 WESTERN RUSSIA

 71 10201 F3 72  9  4 2441565 67.7 N  33.4 E 49 724  7.   7
  61.9     16.2  7 10 26.6  7  0  3.4 10201 F3     72/09/04
 2441565   67.7 N   033.4 E   4.6
                 7     61.9      16.2   07-10-26.6   07-00-03.
4   LFBUCEXEFH                                        49 NORTH
ERN ASIA                    724 WESTERN RUSSIA

 71 10201 F4 72  9  4 2441565 67.7 N  33.4 E 49 724  7.   7
  61.9     16.2  7 10 26.6  7  0  3.4 10201 F4     72/09/04
 2441565   67.7 N   033.4 E   4.6
                 7     61.9      16.2   07-10-26.6   07-00-03.
4   LFBUCEXEFH                                        49 NORTH
ERN ASIA                    724 WESTERN RUSSIA

 72 10613 BM 72  9 21 2441582 52.1 N  52.0 E 49 724 28.  28
  79.7     13.4  9 12  8.5  8 59 57.1 10613 BM     72/09/21
 2441582   52.1 N   052.0 E   5.1
                28     79.7      13.4   09-12-08.5   08-59-57.
1   ZEMQLWVOUK                                        49 NORTH
ERN ASIA                    724 WESTERN RUSSIA

 72 10613 F1 72  9 21 2441582 52.1 N  52.0 E 49 724 28.  28
  79.7     13.4  9 12  8.5  8 59 57.1 10613 F1     72/09/21
 2441582   52.1 N   052.0 E   5.1
                28     79.7      13.4   09-12-08.5   08-59-57.
1   ZEMQLWVOUK                                        49 NORTH
ERN ASIA                    724 WESTERN RUSSIA

 72 10613 F2 72  9 21 2441582 52.1 N  52.0 E 49 724 28.  28
  79.7     13.4  9 12  8.5  8 59 57.1 10613 F2     72/09/21
 2441582   52.1 N   052.0 E   5.1
                28     79.7      13.4   09-12-08.5   08-59-57.
1   ZEMQLWVOUK                                        49 NORTH
ERN ASIA                    724 WESTERN RUSSIA

 72 10613 F3 72  9 21 2441582 52.1 N  52.0 E 49 724 28.  28
  79.7     13.4  9 12  8.5  8 59 57.1 10613 F3     72/09/21
 2441582   52.1 N   052.0 E   5.1
                28     79.7      13.4   09-12-08.5   08-59-57.
1   ZEMQLWVOUK                                        49 NORTH
ERN ASIA                    724 WESTERN RUSSIA

 72 10613 F4 72  9 21 2441582 52.1 N  52.0 E 49 724 28.  28
  79.7     13.4  9 12  8.5  8 59 57.1 10613 F4     72/09/21
 2441582   52.1 N   052.0 E   5.1
                28     79.7      13.4   09-12-08.5   08-59-57.
1   ZEMQLWVOUK                                        49 NORTH
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 ERN ASIA                         724 WESTERN RUSSIA

  73 10618 BM 72 10  3 2441594 49.6 N  45.0 E 30 357  0.   0
   80.8     18.4  9 12 28.7  9  0 11.7 10618 BM     72/10/03
  2441594   49.6 N   045.0 E   5.8
                  0     80.8      18.4    09-12-28.7   09-00-11.
 7   JWWLDFGFFX                                        30 MIDDL
 E EAST - CRIMEA - BALKANS   357 SOUTHWESTERN RUSSIA

  73 10618 F1 72 10  3 2441594 49.6 N  45.0 E 30 357  0.   0
   80.8     18.4  9 12 28.7  9  0 11.7 10618 F1     72/10/03
  2441594   49.6 N   045.0 E   5.8
                  0     80.8      18.4    09-12-28.7   09-00-11.
 7   JWWLDFGFFX                                        30 MIDDL
 E EAST - CRIMEA - BALKANS   357 SOUTHWESTERN RUSSIA

  73 10618 F2 72 10  3 2441594 49.6 N  45.0 E 30 357  0.   0
   80.8     18.4  9 12 28.7  9  0 11.7 10618 F2     72/10/03
  2441594   49.6 N   045.0 E   5.8
                  0     80.8      18.4    09-12-28.7   09-00-11.
 7   JWWLDFGFFX                                        30 MIDDL
 E EAST - CRIMEA - BALKANS   357 SOUTHWESTERN RUSSIA

  73 10618 F3 72 10  3 2441594 49.6 N  45.0 E 30 357  0.   0
   80.8     18.4  9 12 28.7  9  0 11.7 10618 F3     72/10/03
  2441594   49.6 N   045.0 E   5.8
                  0     80.8      18.4    09-12-28.7   09-00-11.
 7   JWWLDFGFFX                                        30 MIDDL
 E EAST - CRIMEA - BALKANS   357 SOUTHWESTERN RUSSIA

  73 10618 F4 72 10  3 2441594 49.6 N  45.0 E 30 357  0.   0
   80.8     18.4  9 12 28.7  9  0 11.7 10618 F4     72/10/03
  2441594   49.6 N   045.0 E   5.8
                  0     80.8      18.4    09-12-28.7   09-00-11.
 7   JWWLDFGFFX                                        30 MIDDL
 E EAST - CRIMEA - BALKANS   357 SOUTHWESTERN RUSSIA

  74 10624 BM 72 11  2 2441624 49.9 N  78.8 E 28 329  0.   0
   83.6   356.7  1 39 29.5  1 26 57.9 10624 BM     72/11/02
  2441624   49.9 N   078.8 E   6.2
                  0     83.6     356.7    01-39-29.5   01-26-57.
 9   LCDUWIFYFX                                        28 ALMA-
 ATA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

  74 10624 F1 72 11  2 2441624 49.9 N  78.8 E 28 329  0.   0
   83.6   356.7  1 39 29.5  1 26 57.9 10624 F1     72/11/02
  2441624   49.9 N   078.8 E   6.2
                  0     83.6     356.7    01-39-29.5   01-26-57.
 9   LCDUWIFYFX                                        28 ALMA-
 ATA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

  74 10624 F2 72 11  2 2441624 49.9 N  78.8 E 28 329  0.   0
   83.6   356.7  1 39 29.5  1 26 57.9 10624 F2     72/11/02
  2441624   49.9 N   078.8 E   6.2
                  0     83.6     356.7    01-39-29.5   01-26-57.
 9   LCDUWIFYFX                                        28 ALMA-
 ATA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

  74 10624 F3 72 11  2 2441624 49.9 N  78.8 E 28 329  0.   0
   83.6   356.7  1 39 29.5  1 26 57.9 10624 F3     72/11/02
  2441624    49.9 N    078.8 E    6.2
                     0     83.6      356.7    01-39-29.5    01-26-57.
 9   LCDUWIFYFX                                            28 ALMA-
 ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  74 10624 F4 72 11  2 2441624 49.9 N  78.8 E 28 329  0.   0
   83.6   356.7  1 39 29.5  1 26 57.9 10624 F4     72/11/02
  2441624    49.9 N    078.8 E    6.2
                     0     83.6      356.7    01-39-29.5    01-26-57.
 9   LCDUWIFYFX                                            28 ALMA-
 ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  75 10628 BM 72 11 24 2441646 52.8 N  51.1 E 49 724 33.  33
   78.9     13.8  9 12 10.4  9  0  3.8 10628 BM     72/11/24
  2441646    52.8 N    051.1 E    4.7
                    33     78.9      13.8    09-12-10.4    09-00-03.
 8   KGCLSURXCE                                            49 NORTH
 ERN ASIA                        724 WESTERN RUSSIA

  75 10628 F1 72 11 24 2441646 52.8 N  51.1 E 49 724 33.  33
   78.9     13.8  9 12 10.4  9  0  3.8 10628 F1     72/11/24
  2441646    52.8 N    051.1 E    4.7
                    33     78.9      13.8    09-12-10.4    09-00-03.
 8   KGCLSURXCE                                            49 NORTH
 ERN ASIA                        724 WESTERN RUSSIA

  75 10628 F2 72 11 24 2441646 52.8 N  51.1 E 49 724 33.  33
   78.9     13.8  9 12 10.4  9  0  3.8 10628 F2     72/11/24
  2441646    52.8 N    051.1 E    4.7
                    33     78.9      13.8    09-12-10.4    09-00-03.
 8   KGCLSURXCE                                            49 NORTH
 ERN ASIA                        724 WESTERN RUSSIA

  75 10628 F3 72 11 24 2441646 52.8 N  51.1 E 49 724 33.  33
   78.9     13.8  9 12 10.4  9  0  3.8 10628 F3     72/11/24
  2441646    52.8 N    051.1 E    4.7
                    33     78.9      13.8    09-12-10.4    09-00-03.
 8   KGCLSURXCE                                            49 NORTH
 ERN ASIA                        724 WESTERN RUSSIA

  75 10628 F4 72 11 24 2441646 52.8 N  51.1 E 49 724 33.  33
   78.9     13.8  9 12 10.4  9  0  3.8 10628 F4     72/11/24
  2441646    52.8 N    051.1 E    4.7
                    33     78.9      13.8    09-12-10.4    09-00-03.
 8   KGCLSURXCE                                            49 NORTH
 ERN ASIA                        724 WESTERN RUSSIA


  76 10630 BM 72 11 24 2441646 51.8 N  64.1 E 29 336  0.   0
  81.4     6.0 10 12 18.4  9 59 58.2 10630 BM     72/11/24
 2441646    51.8 N    064.1 E    5.2
                    0     81.4       6.0    10-12-18.4    09-59-58.2
   BXJMLVHRHS                                             29 WESTER
 N ASIA                         336 WESTERN KAZAKH SSR

  76 10630 F1 72 11 24 2441646 51.8 N  64.1 E 29 336  0.   0
   81.4     6.0 10 12 18.4  9 59 58.2 10630 F1     72/11/24
  2441646    51.8 N    064.1 E    5.2
                     0     81.4       6.0    10-12-18.4    09-59-58.
 2   BXJMLVHRHS                                            29 WESTE
 RN ASIA                          336 WESTERN KAZAKH SSR

  76 10630 F2 72 11 24 2441646 51.8 N  64.1 E 29 336  0.   0
   81.4      6.0 10 12 18.4  9 59 58.2 10630 F2     72/11/24
  2441646    51.8 N   064.1 E    5.2
                  0     81.4       6.0   10-12-18.4   09-59-58.
 2   BXJMLVHRHS                                        29 WESTE
 RN ASIA                          336 WESTERN KAZAKH SSR

  76 10630 F3 72 11 24 2441646 51.8 N  64.1 E 29 336  0.   0
   81.4      6.0 10 12 18.4  9 59 58.2 10630 F3     72/11/24
  2441646    51.8 N   064.1 E    5.2
                  0     81.4       6.0   10-12-18.4   09-59-58.
 2   BXJMLVHRHS                                        29 WESTE
 RN ASIA                          336 WESTERN KAZAKH SSR

  76 10630 F4 72 11 24 2441646 51.8 N  64.1 E 29 336  0.   0
   81.4      6.0 10 12 18.4  9 59 58.2 10630 F4     72/11/24
  2441646    51.8 N   064.1 E    5.2
                  0     81.4       6.0   10-12-18.4   09-59-58.
 2   BXJMLVHRHS                                        29 WESTE
 RN ASIA                          336 WESTERN KAZAKH SSR

  77 10731 BM 72 12 10 2441662 50.0 N  78.0 E 28 329  0.   0
   83.5    357.3  4 39 30.1  4 26 58.9 10731 BM     72/12/10
  2441662    50.0 N   078.0 E    5.7
                  0     83.5     357.3   04-39-30.1   04-26-58.
 9   GIDVPYLHEX                                        28 ALMA-
 ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  77 10731 F1 72 12 10 2441662 50.0 N  78.0 E 28 329  0.   0
   83.5    357.3  4 39 30.1  4 26 58.9 10731 F1     72/12/10
  2441662    50.0 N   078.0 E    5.7
                  0     83.5     357.3   04-39-30.1   04-26-58.
 9   GIDVPYLHEX                                        28 ALMA-
 ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  77 10731 F2 72 12 10 2441662 50.0 N  78.0 E 28 329  0.   0
   83.5    357.3  4 39 30.1  4 26 58.9 10731 F2     72/12/10
  2441662    50.0 N   078.0 E    5.7
                  0     83.5     357.3   04-39-30.1   04-26-58.
 9   GIDVPYLHEX                                        28 ALMA-
 ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  77 10731 F3 72 12 10 2441662 50.0 N  78.0 E 28 329  0.   0
   83.5    357.3  4 39 30.1  4 26 58.9 10731 F3     72/12/10
  2441662    50.0 N   078.0 E    5.7
                  0     83.5     357.3   04-39-30.1   04-26-58.
 9   GIDVPYLHEX                                        28 ALMA-
 ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  77 10731 F4 72 12 10 2441662 50.0 N  78.0 E 28 329  0.   0
   83.5    357.3  4 39 30.1  4 26 58.9 10731 F4     72/12/10
  2441662    50.0 N   078.0 E    5.7
                  0     83.5     357.3   04-39-30.1   04-26-58.
 9   GIDVPYLHEX                                        28 ALMA-
 ATA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

  78 10913 BM 73  4 19 2441792 49.8 N  78.2 E 28 329  0.   0
   83.7    357.1  4 33  0.0  4 20 27.7 10913 BM     73/04/19
 2441792    49.8 N    078.2 E    5.4
                       0      83.7      357.1    04-33-00.0    04-20-27.
7   UMULEMUXZK                                                 28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 78 10913 F1 73  4 19 2441792 49.8 N  78.2 E 28 329  0.   0
  83.7   357.1  4 33  0.0  4 20 27.7 10913 F1     73/04/19
 2441792    49.8 N    078.2 E    5.4
                       0      83.7      357.1    04-33-00.0    04-20-27.
7   UMULEMUXZK                                                 28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 78 10913 F2 73  4 19 2441792 49.8 N  78.2 E 28 329  0.   0
  83.7   357.1  4 33  0.0  4 20 27.7 10913 F2     73/04/19
 2441792    49.8 N    078.2 E    5.4
                       0      83.7      357.1    04-33-00.0    04-20-27.
7   UMULEMUXZK                                                 28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 78 10913 F3 73  4 19 2441792 49.8 N  78.2 E 28 329  0.   0
  83.7   357.1  4 33  0.0  4 20 27.7 10913 F3     73/04/19
 2441792    49.8 N    078.2 E    5.4
                       0      83.7      357.1    04-33-00.0    04-20-27.
7   UMULEMUXZK                                                 28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 78 10913 F4 73  4 19 2441792 49.8 N  78.2 E 28 329  0.   0
  83.7   357.1  4 33  0.0  4 20 27.7 10913 F4     73/04/19
 2441792    49.8 N    078.2 E    5.4
                       0      83.7      357.1    04-33-00.0    04-20-27.
7   UMULEMUXZK                                                 28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 79 11048 BM 73  7 10 2441874 49.8 N  78.1 E 28 329  0.   0
  83.7   357.2  1 26 57.0  1 14 24.7 11048 BM     73/07/10
 2441874    49.8 N    078.1 E    5.4
                       0      83.7      357.2    01-26-57.0    01-14-24.
7   TPSYXLZIEV                                                 28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 79 11048 F1 73  7 10 2441874 49.8 N  78.1 E 28 329  0.   0
  83.7   357.2  1 26 57.0  1 14 24.7 11048 F1     73/07/10
 2441874    49.8 N    078.1 E    5.4
                       0      83.7      357.2    01-26-57.0    01-14-24.
7   TPSYXLZIEV                                                 28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 79 11048 F2 73  7 10 2441874 49.8 N  78.1 E 28 329  0.   0
  83.7   357.2  1 26 57.0  1 14 24.7 11048 F2     73/07/10
 2441874    49.8 N    078.1 E    5.4
                       0      83.7      357.2    01-26-57.0    01-14-24.
7   TPSYXLZIEV                                                 28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

 79 11048 F3 73  7 10 2441874 49.8 N  78.1 E 28 329  0.   0
  83.7   357.2  1 26 57.0  1 14 24.7 11048 F3     73/07/10
 2441874    49.8 N    078.1 E    5.4
                       0      83.7      357.2    01-26-57.0    01-14-24.
7   TPSYXLZIEV                                                 28 ALMA-
ATA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR
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 79 11048 F4 73  7 10 2441874 49.8 N  78.1 E 28 329  0.   0
  83.7   357.2  1 26 57.0  1 14 24.7 11048 F4    73/07/10
 2441874   49.8 N   078.1 E   5.4
                  0     83.7    357.2   01-26-57.0   01-14-24.
7   TPSYXLZIEV                                          28 ALMA-
ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 80 11069 BM 73  7 23 2441887 50.0 N  78.9 E 28 329  0.   0
  83.5   356.7  1 22 57.0  1 10 26.0 11069 BM    73/07/23
 2441887   50.0 N   078.9 E   6.3
                  0     83.5    356.7   01-22-57.0   01-10-26.
0   ULIHMISOXR                                          28 ALMA-
ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 80 11069 F1 73  7 23 2441887 50.0 N  78.9 E 28 329  0.   0
  83.5   356.7  1 22 57.0  1 10 26.0 11069 F1    73/07/23
 2441887   50.0 N   078.9 E   6.3
                  0     83.5    356.7   01-22-57.0   01-10-26.
0   ULIHMISOXR                                          28 ALMA-
ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 80 11069 F2 73  7 23 2441887 50.0 N  78.9 E 28 329  0.   0
  83.5   356.7  1 22 57.0  1 10 26.0 11069 F2    73/07/23
 2441887   50.0 N   078.9 E   6.3
                  0     83.5    356.7   01-22-57.0   01-10-26.
0   ULIHMISOXR                                          28 ALMA-
ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 80 11069 F3 73  7 23 2441887 50.0 N  78.9 E 28 329  0.   0
  83.5   356.7  1 22 57.0  1 10 26.0 11069 F3    73/07/23
 2441887   50.0 N   078.9 E   6.3
                  0     83.5    356.7   01-22-57.0   01-10-26.
0   ULIHMISOXR                                          28 ALMA-
ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 80 11069 F4 73  7 23 2441887 50.0 N  78.9 E 28 329  0.   0
  83.5   356.7  1 22 57.0  1 10 26.0 11069 F4    73/07/23
 2441887   50.0 N   078.9 E   6.3
                  0     83.5    356.7   01-22-57.0   01-10-26.
0   ULIHMISOXR                                          28 ALMA-
ATA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

 81 11432 BM 73  8 15 2441910 42.7 N  67.4 E 48 713  0.   0
  90.7     4.7  1 59 57.0  1 46 51.1 11432 BM    73/08/15
 2441910   42.7 N   067.4 E   5.3
                  0     90.7      4.7   01-59-57.0   01-46-51.
1   XLGDIDBMIZ                                          48 HINDU
 KUSH AND PAMIR              713 CENTRAL KAZAKH SSR

 81 11432 F1 73  8 15 2441910 42.7 N  67.4 E 48 713  0.   0
  90.7     4.7  1 59 57.0  1 46 51.1 11432 F1    73/08/15
 2441910   42.7 N   067.4 E   5.3
                  0     90.7      4.7   01-59-57.0   01-46-51.
1   XLGDIDBMIZ                                          48 HINDU
 KUSH AND PAMIR              713 CENTRAL KAZAKH SSR

 81 11432 F2 73  8 15 2441910 42.7 N  67.4 E 48 713  0.   0
  90.7     4.7  1 59 57.0  1 46 51.1 11432 F2    73/08/15
 2441910   42.7 N   067.4 E   5.3
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                         0     90.7        4.7   01-59-57.0   01-46-51.
    1   XLGDIDBMIZ                                                 48 HINDU
     KUSH AND PAMIR                    713 CENTRAL KAZAKH SSR

     81 11432 F3 73  8 15 2441910 42.7 N  67.4 E 48 713  0.   0
      90.7       4.7  1 59 57.0  1 46 51.1 11432 F3     73/08/15
     2441910    42.7 N   067.4 E   5.3
                         0     90.7        4.7   01-59-57.0   01-46-51.
    1   XLGDIDBMIZ                                                 48 HINDU
     KUSH AND PAMIR                    713 CENTRAL KAZAKH SSR

     81 11432 F4 73  8 15 2441910 42.7 N  67.4 E 48 713  0.   0
      90.7       4.7  1 59 57.0  1 46 51.1 11432 F4     73/08/15
     2441910    42.7 N   067.4 E   5.3
                         0     90.7        4.7   01-59-57.0   01-46-51.
    1   XLGDIDBMIZ                                                 48 HINDU
     KUSH AND PAMIR                    713 CENTRAL KAZAKH SSR

     82 11473 BM 73  8 28 2441923 50.6 N  68.4 E 48 713  0.   0
      82.9       3.4  2 59 58.0  2 47 30.6 11473 BM     73/08/28
     2441923    50.6 N   068.4 E   5.3
                         0     82.9        3.4   02-59-58.0   02-47-30.
    6   EWUYDJXMLW                                                 48 HINDU
     KUSH AND PAMIR                    713 CENTRAL KAZAKH SSR

     82 11473 F1 73  8 28 2441923 50.6 N  68.4 E 48 713  0.   0
      82.9       3.4  2 59 58.0  2 47 30.6 11473 F1     73/08/28
     2441923    50.6 N   068.4 E   5.3
                         0     82.9        3.4   02-59-58.0   02-47-30.
    6   EWUYDJXMLW                                                 48 HINDU
     KUSH AND PAMIR                    713 CENTRAL KAZAKH SSR

     82 11473 F2 73  8 28 2441923 50.6 N  68.4 E 48 713  0.   0
      82.9       3.4  2 59 58.0  2 47 30.6 11473 F2     73/08/28
     2441923    50.6 N   068.4 E   5.3
                         0     82.9        3.4   02-59-58.0   02-47-30.
    6   EWUYDJXMLW                                                 48 HINDU
     KUSH AND PAMIR                    713 CENTRAL KAZAKH SSR

     82 11473 F3 73  8 28 2441923 50.6 N  68.4 E 48 713  0.   0
      82.9       3.4  2 59 58.0  2 47 30.6 11473 F3     73/08/28
     2441923    50.6 N   068.4 E   5.3
                         0     82.9        3.4   02-59-58.0   02-47-30.
    6   EWUYDJXMLW                                                 48 HINDU
     KUSH AND PAMIR                    713 CENTRAL KAZAKH SSR

     82 11473 F4 73  8 28 2441923 50.6 N  68.4 E 48 713  0.   0
      82.9       3.4  2 59 58.0  2 47 30.6 11473 F4     73/08/28
     2441923    50.6 N   068.4 E   5.3
                         0     82.9        3.4   02-59-58.0   02-47-30.
    6   EWUYDJXMLW                                                 48 HINDU
     KUSH AND PAMIR                    713 CENTRAL KAZAKH SSR

     83 11535 BM 73  9 12 2441938 73.3 N  55.2 E 40 648  0.   0
      59.6       6.1  6 59 57.0  6 49 49.1 11535 BM     73/09/12
     2441938    73.3 N   055.2 E   6.8
                         0     59.6        6.1   06-59-57.0   06-49-49.
    1   MSXMYHGLJI                                                 40 ARCTI
    C ZONE                             648 NOVAYA ZEMLYA
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 83 11535 F1 73  9 12 2441938 73.3 N  55.2 E 40 648  0.   0
  59.6    6.1   6 59 57.0  6 49 49.1 11535 F1    73/09/12
 2441938   73.3 N   055.2 E   6.8
                0    59.6      6.1   06-59-57.0   06-49-49.
1   MSXMYHGLJI                                     40 ARCTI
C ZONE                      648 NOVAYA ZEMLYA

 83 11535 F2 73  9 12 2441938 73.3 N  55.2 E 40 648  0.   0
  59.6    6.1   6 59 57.0  6 49 49.1 11535 F2    73/09/12
 2441938   73.3 N   055.2 E   6.8
                0    59.6      6.1   06-59-57.0   06-49-49.
1   MSXMYHGLJI                                     40 ARCTI
C ZONE                      648 NOVAYA ZEMLYA

 83 11535 F3 73  9 12 2441938 73.3 N  55.2 E 40 648  0.   0
  59.6    6.1   6 59 57.0  6 49 49.1 11535 F3    73/09/12
 2441938   73.3 N   055.2 E   6.8
                0    59.6      6.1   06-59-57.0   06-49-49.
1   MSXMYHGLJI                                     40 ARCTI
C ZONE                      648 NOVAYA ZEMLYA

 83 11535 F4 73  9 12 2441938 73.3 N  55.2 E 40 648  0.   0
  59.6    6.1   6 59 57.0  6 49 49.1 11535 F4    73/09/12
 2441938   73.3 N   055.2 E   6.8
                0    59.6      6.1   06-59-57.0   06-49-49.
1   MSXMYHGLJI                                     40 ARCTI
C ZONE                      648 NOVAYA ZEMLYA

 84 11542 BM 73  9 19 2441945 45.6 N  67.9 E 48 713  0.   0
  87.9     4.1  2 59 57.0  2 47  4.7 11542 BM    73/09/19
 2441945   45.6 N   067.9 E   5.2
                0    87.9      4.1   02-59-57.0   02-47-04.
7   TLMGXSDZWH                                     48 HINDU
 KUSH AND PAMIR             713 CENTRAL KAZAKH SSR

 84 11542 F1 73  9 19 2441945 45.6 N  67.9 E 48 713  0.   0
  87.9     4.1  2 59 57.0  2 47  4.7 11542 F1    73/09/19
 2441945   45.6 N   067.9 E   5.2
                0    87.9      4.1   02-59-57.0   02-47-04.
7   TLMGXSDZWH                                     48 HINDU
 KUSH AND PAMIR             713 CENTRAL KAZAKH SSR

 84 11542 F2 73  9 19 2441945 45.6 N  67.9 E 48 713  0.   0
  87.9     4.1  2 59 57.0  2 47  4.7 11542 F2    73/09/19
 2441945   45.6 N   067.9 E   5.2
                0    87.9      4.1   02-59-57.0   02-47-04.
7   TLMGXSDZWH                                     48 HINDU
 KUSH AND PAMIR             713 CENTRAL KAZAKH SSR

 84 11542 F2 73  9 19 2441945 45.6 N  67.9 E 48 713  0.   0
  87.9     4.1  2 59 57.0  2 47  4.7 11542 F2    73/09/19
 2441945   45.6 N   067.9 E   5.2
                0    87.9      4.1   02-59-57.0   02-47-04.
7   TLMGXSDZWH                                     48 HINDU
 KUSH AND PAMIR             713 CENTRAL KAZAKH SSR

 84 11542 F3 73  9 19 2441945 45.6 N  67.9 E 48 713  0.   0
  87.9     4.1  2 59 57.0  2 47  4.7 11542 F3    73/09/19
 2441945   45.6 N   067.9 E   5.2
                0    87.9      4.1   02-59-57.0   02-47-04.
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       7    TLMGXSDZWH                                         48 HINDU
        KUSH AND PAMIR                  713 CENTRAL KAZAKH SSR

        85 11585 BM 73   9 27 2441953 70.8 N   53.9 E 40 648  0.    0
         61.9      7.3  6 59 58.0  6 49 34.8 11585 BM     73/09/27
        2441953    70.8 N    053.9 E    6.0
                        0     61.9        7.3    06-59-58.0    06-49-34.
       8    XBVUBJLVUB                                         40 ARCTI
       C ZONE                           648 NOVAYA ZEMLYA

        85 11585 F1 73   9 27 2441953 70.8 N   53.9 E 40 648  0.    0
         61.9      7.3  6 59 58.0  6 49 34.8 11585 F1     73/09/27
        2441953    70.8 N    053.9 E    6.0
                        0     61.9        7.3    06-59-58.0    06-49-34.
       8    XBVUBJLVUB                                         40 ARCTI
       C ZONE                           648 NOVAYA ZEMLYA

        85 11585 F2 73   9 27 2441953 70.8 N   53.9 E 40 648  0.    0
         61.9      7.3  6 59 58.0  6 49 34.8 11585 F2     73/09/27
        2441953    70.8 N    053.9 E    6.0
                        0     61.9        7.3    06-59-58.0    06-49-34.
       8    XBVUBJLVUB                                         40 ARCTI
       C ZONE                           648 NOVAYA ZEMLYA

        85 11585 F3 73   9 27 2441953 70.8 N   53.9 E 40 648  0.    0
         61.9      7.3  6 59 58.0  6 49 34.8 11585 F3     73/09/27
        2441953    70.8 N    053.9 E    6.0
                        0     61.9        7.3    06-59-58.0    06-49-34.
       8    XBVUBJLVUB                                         40 ARCTI
       C ZONE                           648 NOVAYA ZEMLYA

        85 11585 F4 73   9 27 2441953 70.8 N   53.9 E 40 648  0.    0
         61.9      7.3  6 59 58.0  6 49 34.8 11585 F4     73/09/27
        2441953    70.8 N    053.9 E    6.0
                        0     61.9        7.3    06-59-58.0    06-49-34.
       8    XBVUBJLVUB                                         40 ARCTI
       C ZONE                           648 NOVAYA ZEMLYA

        86 11589 BM 73   9 30 2441956 51.6 N   54.6 E 49 724  0.    0
         80.6     11.9  4 59  0.0  4 46 43.9 11589 BM     73/09/30
        2441956    51.6 N    054.6 E    5.2
                        0     80.6       11.9    04-59-00.0    04-46-43.
       9    JMXUZHGPLI                                         49 NORTH
       ERN ASIA                         724 WESTERN RUSSIA

        86 11589 F1 73   9 30 2441956 51.6 N   54.6 E 49 724  0.    0
         80.6     11.9  4 59  0.0  4 46 43.9 11589 F1     73/09/30
        2441956    51.6 N    054.6 E    5.2
                        0     80.6       11.9    04-59-00.0    04-46-43.
       9    JMXUZHGPLI                                         49 NORTH
       ERN ASIA                         724 WESTERN RUSSIA

        86 11589 F2 73   9 30 2441956 51.6 N   54.6 E 49 724  0.    0
         80.6     11.9  4 59  0.0  4 46 43.9 11589 F2     73/09/30
        2441956    51.6 N    054.6 E    5.2
                        0     80.6       11.9    04-59-00.0    04-46-43.
       9    JMXUZHGPLI                                         49 NORTH
       ERN ASIA                         724 WESTERN RUSSIA

        86 11589 F3 73   9 30 2441956 51.6 N   54.6 E 49 724  0.    0
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  80.6      11.9  4 59  0.0  4 46 43.9 11589 F3     73/09/30
 2441956    51.6 N   054.6 E    5.2
                  0     80.6      11.9   04-59-00.0   04-46-43.
9   JMXUZHGPLI                                        49 NORTH
ERN ASIA                       724 WESTERN RUSSIA

 86 11589 F4 73  9 30 2441956 51.6 N  54.6 E 49 724  0.   0
  80.6      11.9  4 59  0.0  4 46 43.9 11589 F4     73/09/30
 2441956    51.6 N   054.6 E    5.2
                  0     80.6      11.9   04-59-00.0   04-46-43.
9   JMXUZHGPLI                                        49 NORTH
ERN ASIA                       724 WESTERN RUSSIA

 87 11662 BM 73 10 26 2441982 53.7 N  55.4 E 29 335  0.   0
  78.7      11.0  5 59 57.0  5 47 51.6 11662 BM     73/10/26
 2441982    53.7 N   055.4 E    4.8
                  0     78.7      11.0   05-59-57.0   05-47-51.
6   LZJXPFGUMF                                        29 WESTE
RN ASIA                        335 URAL MOUNTAINS REGION

 87 11662 D1 73 10 26 2441982 53.7 N  55.4 E 29 335  0.   0
  78.7      11.0  5 59 57.0  5 47 51.6 11662 D1     73/10/26
 2441982    53.7 N   055.4 E    4.8
                  0     78.7      11.0   05-59-57.0   05-47-51.
6   LZJXPFGUMF                                        29 WESTE
RN ASIA                        335 URAL MOUNTAINS REGION

 87 11662 D2 73 10 26 2441982 53.7 N  55.4 E 29 335  0.   0
  78.7      11.0  5 59 57.0  5 47 51.6 11662 D2     73/10/26
 2441982    53.7 N   055.4 E    4.8
                  0     78.7      11.0   05-59-57.0   05-47-51.
6   LZJXPFGUMF                                        29 WESTE
RN ASIA                        335 URAL MOUNTAINS REGION

 87 11662 D3 73 10 26 2441982 53.7 N  55.4 E 29 335  0.   0
  78.7      11.0  5 59 57.0  5 47 51.6 11662 D3     73/10/26
 2441982    53.7 N   055.4 E    4.8
                  0     78.7      11.0   05-59-57.0   05-47-51.
6   LZJXPFGUMF                                        29 WESTE
RN ASIA                        335 URAL MOUNTAINS REGION

 87 11662 D4 73 10 26 2441982 53.7 N  55.4 E 29 335  0.   0
  78.7      11.0  5 59 57.0  5 47 51.6 11662 D4     73/10/26
 2441982    53.7 N   055.4 E    4.8
                  0     78.7      11.0   05-59-57.0   05-47-51.
6   LZJXPFGUMF                                        29 WESTE
RN ASIA                        335 URAL MOUNTAINS REGION

 88 11707 BM 73 10 27 2441983 70.8 N  54.2 E 40 648  0.   0
  61.9       7.2  6 59 57.0  6 49 33.6 11707 BM     73/10/27
 2441983    70.8 N   054.2 E    6.9
                  0     61.9       7.2   06-59-57.0   06-49-33.
6   WMMSCULDXZ                                        40 ARCTI
C ZONE                         648 NOVAYA ZEMLYA

 88 11707 D1 73 10 27 2441983 70.8 N  54.2 E 40 648  0.   0
  61.9       7.2  6 59 57.0  6 49 33.6 11707 D1     73/10/27
 2441983    70.8 N   054.2 E    6.9
                  0     61.9       7.2   06-59-57.0   06-49-33.
6   WMMSCULDXZ                                        40 ARCTI
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   C ZONE                            648 NOVAYA ZEMLYA

    88 11707 D2 73 10 27 2441983 70.8 N  54.2 E 40 648  0.   0
     61.9     7.2  6 59 57.0  6 49 33.6 11707 D2     73/10/27
    2441983   70.8 N   054.2 E   6.9
                       0    61.9      7.2   06-59-57.0   06-49-33.
   6   WMMSCULDXZ                                         40 ARCTI
   C ZONE                            648 NOVAYA ZEMLYA

    88 11707 D3 73 10 27 2441983 70.8 N  54.2 E 40 648  0.   0
     61.9     7.2  6 59 57.0  6 49 33.6 11707 D3     73/10/27
    2441983   70.8 N   054.2 E   6.9
                       0    61.9      7.2   06-59-57.0   06-49-33.
   6   WMMSCULDXZ                                         40 ARCTI
   C ZONE                            648 NOVAYA ZEMLYA

    88 11707 D4 73 10 27 2441983 70.8 N  54.2 E 40 648  0.   0
     61.9     7.2  6 59 57.0  6 49 33.6 11707 D4     73/10/27
    2441983   70.8 N   054.2 E   6.9
                       0    61.9      7.2   06-59-57.0   06-49-33.
   6   WMMSCULDXZ                                         40 ARCTI
   C ZONE                            648 NOVAYA ZEMLYA

    89 11785 BM 73 12 14 2442031 50.0 N  79.0 E 28 329  0.   0
     83.5   356.6  7 46 47.0  7 34 16.0 11785 BM     73/12/14
    2442031   50.0 N   079.0 E   6.0
                       0    83.5    356.6   07-46-47.0   07-34-16.
   0   WUDYLBXEST                                         28 ALMA-
   ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

    89 11785 D1 73 12 14 2442031 50.0 N  79.0 E 28 329  0.   0
     83.5   356.6  7 46 47.0  7 34 16.0 11785 D1     73/12/14
    2442031   50.0 N   079.0 E   6.0
                       0    83.5    356.6   07-46-47.0   07-34-16.
   0   WUDYLBXEST                                         28 ALMA-
   ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

    89 11785 D2 73 12 14 2442031 50.0 N  79.0 E 28 329  0.   0
     83.5   356.6  7 46 47.0  7 34 16.0 11785 D2     73/12/14
    2442031   50.0 N   079.0 E   6.0
                       0    83.5    356.6   07-46-47.0   07-34-16.
   0   WUDYLBXEST                                         28 ALMA-
   ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

    89 11785 D3 73 12 14 2442031 50.0 N  79.0 E 28 329  0.   0
     83.5   356.6  7 46 47.0  7 34 16.0 11785 D3     73/12/14
    2442031   50.0 N   079.0 E   6.0
                       0    83.5    356.6   07-46-47.0   07-34-16.
   0   WUDYLBXEST                                         28 ALMA-
   ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

    89 11785 D4 73 12 14 2442031 50.0 N  79.0 E 28 329  0.   0
     83.5   356.6  7 46 47.0  7 34 16.0 11785 D4     73/12/14
    2442031   50.0 N   079.0 E   6.0
                       0    83.5    356.6   07-46-47.0   07-34-16.
   0   WUDYLBXEST                                         28 ALMA-
   ATA TO LAKE BAIKAL                329 EASTERN KAZAKH SSR

    90  1045 BM 65 10  1 2439035 51.2 N 178.9 E  1   6 36.  36
     47.4   304.5 13 23  1.7 13 14 23.7  1045 BM     65/10/01
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  2439035    51.2 N    178.9 E    4.8
                    36      47.4      304.5    13-23-01.7    13-14-23.
 7   UOEQFZRJKL                                               1 ALASK
A - ALEUTIAN ARC                     6 RAT ISLANDS, ALEUTIAN ISLAND
S
  90  1045 F1 65 10  1 2439035 51.2 N 178.9 E  1    6 36.  36
   47.4    304.5 13 23   1.7 13 14 23.7  1045 F1     65/10/01
  2439035    51.2 N    178.9 E    4.8
                    36      47.4      304.5    13-23-01.7    13-14-23.
 7   UOEQFZRJKL                                               1 ALASK
A - ALEUTIAN ARC                     6 RAT ISLANDS, ALEUTIAN ISLAND
S
  90  1045 F2 65 10  1 2439035 51.2 N 178.9 E  1    6 36.  36
   47.4    304.5 13 23   1.7 13 14 23.7  1045 F2     65/10/01
  2439035    51.2 N    178.9 E    4.8
                    36      47.4      304.5    13-23-01.7    13-14-23.
 7   UOEQFZRJKL                                               1 ALASK
A - ALEUTIAN ARC                     6 RAT ISLANDS, ALEUTIAN ISLAND
S
  90  1045 F3 65 10  1 2439035 51.2 N 178.9 E  1    6 36.  36
   47.4    304.5 13 23   1.7 13 14 23.7  1045 F3     65/10/01
  2439035    51.2 N    178.9 E    4.8
                    36      47.4      304.5    13-23-01.7    13-14-23.
 7   UOEQFZRJKL                                               1 ALASK
A - ALEUTIAN ARC                     6 RAT ISLANDS, ALEUTIAN ISLAND
S
  90  1045 F4 65 10  1 2439035 51.2 N 178.9 E  1    6 36.  36
   47.4    304.5 13 23   1.7 13 14 23.7  1045 F4     65/10/01
  2439035    51.2 N    178.9 E    4.8
                    36      47.4      304.5    13-23-01.7    13-14-23.
 7   UOEQFZRJKL                                               1 ALASK
A - ALEUTIAN ARC                     6 RAT ISLANDS, ALEUTIAN ISLAND
S
  91  1052 BM 65 11 11 2439076 51.3 N 174.0 E  1    5 45.  45
   50.1    306.5  2 30    .2  2 21   1.5  1052 BM     65/11/11
  2439076    51.3 N    174.0 E    5.2
                    45      50.1      306.5    02-30-00.2    02-21-01.
 5   TLIPEFQIDS                                               1 ALASK
A - ALEUTIAN ARC                     5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
  91  1052 F1 65 11 11 2439076 51.3 N 174.0 E  1    5 45.  45
   50.1    306.5  2 30    .2  2 21   1.5  1052 F1     65/11/11
  2439076    51.3 N    174.0 E    5.2
                    45      50.1      306.5    02-30-00.2    02-21-01.
 5   TLIPEFQIDS                                               1 ALASK
A - ALEUTIAN ARC                     5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
  91  1052 F2 65 11 11 2439076 51.3 N 174.0 E  1    5 45.  45
   50.1    306.5  2 30    .2  2 21   1.5  1052 F2     65/11/11
  2439076    51.3 N    174.0 E    5.2
                    45      50.1      306.5    02-30-00.2    02-21-01.
 5   TLIPEFQIDS                                               1 ALASK
A - ALEUTIAN ARC                     5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
  91  1052 F3 65 11 11 2439076 51.3 N 174.0 E  1    5 45.  45
   50.1    306.5  2 30    .2  2 21   1.5  1052 F3     65/11/11
  2439076    51.3 N    174.0 E    5.2
                    45      50.1      306.5    02-30-00.2    02-21-01.
 5   TLIPEFQIDS                                               1 ALASK
A - ALEUTIAN ARC                     5 NEAR ISLANDS, ALEUTIAN ISLAN
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DS
 91  1052 F4 65 11 11 2439076 51.3 N 174.0 E  1    5 45.  45
  50.1   306.5  2 30   .2  2 21  1.5  1052 F4    65/11/11
 2439076   51.3 N   174.0 E   5.2
                 45    50.1    306.5   02-30-00.2   02-21-01.
5   TLIPEFQIDS                                       1 ALASK
A - ALEUTIAN ARC              5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
 92  1056 BM 65 11 13 2439078 43.8 N  87.7 E 28 332 55.  55
  89.0   350.0  4 46 43.3  4 33 45.5  1056 BM    65/11/13
 2439078   43.8 N   087.7 E   6.4
                 55    89.0    350.0   04-46-43.3   04-33-45.
5   CFHDOVJLOQ                                      28 ALMA-
ATA TO LAKE BAIKAL          332 NORTHERN SINKIANG PROV., CHI
NA
 92  1056 F1 65 11 13 2439078 43.8 N  87.7 E 28 332 55.  55
  89.0   350.0  4 46 43.3  4 33 45.5  1056 F1    65/11/13
 2439078   43.8 N   087.7 E   6.4
                 55    89.0    350.0   04-46-43.3   04-33-45.
5   CFHDOVJLOQ                                      28 ALMA-
ATA TO LAKE BAIKAL          332 NORTHERN SINKIANG PROV., CHI
NA
 92  1056 F2 65 11 13 2439078 43.8 N  87.7 E 28 332 55.  55
  89.0   350.0  4 46 43.3  4 33 45.5  1056 F2    65/11/13
 2439078   43.8 N   087.7 E   6.4
                 55    89.0    350.0   04-46-43.3   04-33-45.
5   CFHDOVJLOQ                                      28 ALMA-
ATA TO LAKE BAIKAL          332 NORTHERN SINKIANG PROV., CHI
NA
 92  1056 F3 65 11 13 2439078 43.8 N  87.7 E 28 332 55.  55
  89.0   350.0  4 46 43.3  4 33 45.5  1056 F3    65/11/13
 2439078   43.8 N   087.7 E   6.4
                 55    89.0    350.0   04-46-43.3   04-33-45.
5   CFHDOVJLOQ                                      28 ALMA-
ATA TO LAKE BAIKAL          332 NORTHERN SINKIANG PROV., CHI
NA
 92  1056 F4 65 11 13 2439078 43.8 N  87.7 E 28 332 55.  55
  89.0   350.0  4 46 43.3  4 33 45.5  1056 F4    65/11/13
 2439078   43.8 N   087.7 E   6.4
                 55    89.0    350.0   04-46-43.3   04-33-45.
5   CFHDOVJLOQ                                      28 ALMA-
ATA TO LAKE BAIKAL          332 NORTHERN SINKIANG PROV., CHI
NA
 93  1901 BM 66  1 28 2439154 39.3 N  73.1 E 48 719 43.  43
  94.3      .5  9  5 21.3  8 51 58.8  1901 BM    66/01/28
 2439154   39.3 N   073.1 E   5.3
                 43    94.3       .5   09-05-21.3   08-51-58.
8   QBOLTKJKWF                                      48 HINDU
 KUSH AND PAMIR             719 TADZHIK-SINKIANG BORDER REGI
ON
 93  1901 F1 66  1 28 2439154 39.3 N  73.1 E 48 719 43.  43
  94.3      .5  9  5 21.3  8 51 58.8  1901 F1    66/01/28
 2439154   39.3 N   073.1 E   5.3
                 43    94.3       .5   09-05-21.3   08-51-58.
8   QBOLTKJKWF                                      48 HINDU
 KUSH AND PAMIR             719 TADZHIK-SINKIANG BORDER REGI
ON
 93  1901 F2 66  1 28 2439154 39.3 N  73.1 E 48 719 43.  43
  94.3      .5  9  5 21.3  8 51 58.8  1901 F2    66/01/28
 2439154   39.3 N   073.1 E   5.3
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               43     94.3         .5   09-05-21.3   08-51-58.
8   QBOLTKJKWF                                     48 HINDU
 KUSH AND PAMIR            719 TADZHIK-SINKIANG BORDER REGI
ON
 93  1901 F3 66  1 28 2439154 39.3 N  73.1 E 48 719 43.  43
  94.3      .5  9  5 21.3  8 51 58.8  1901 F3    66/01/28
 2439154   39.3 N   073.1 E   5.3
               43     94.3         .5   09-05-21.3   08-51-58.
8   QBOLTKJKWF                                     48 HINDU
 KUSH AND PAMIR            719 TADZHIK-SINKIANG BORDER REGI
ON
 93  1901 F4 66  1 28 2439154 39.3 N  73.1 E 48 719 43.  43
  94.3      .5  9  5 21.3  8 51 58.8  1901 F4    66/01/28
 2439154   39.3 N   073.1 E   5.3
               43     94.3         .5   09-05-21.3   08-51-58.
8   QBOLTKJKWF                                     48 HINDU
 KUSH AND PAMIR            719 TADZHIK-SINKIANG BORDER REGI
ON
 94  2194 BM 66  2  7 2439164 29.8 N  69.7 E 47 710 33.  33
 103.7     3.6  4 40 13.9  4 26  9.1  2194 BM    66/02/07
 2439164   29.8 N   069.7 E   6.0
               33    103.7        3.6   04-40-13.9   04-26-09.
1   TLMSPUQVMY                                     47 BALUC
HISTAN                     710 WEST PAKISTAN

 94  2194 F1 66  2  7 2439164 29.8 N  69.7 E 47 710 33.  33
 103.7     3.6  4 40 13.9  4 26  9.1  2194 F1    66/02/07
 2439164   29.8 N   069.7 E   6.0
               33    103.7        3.6   04-40-13.9   04-26-09.
1   TLMSPUQVMY                                     47 BALUC
HISTAN                     710 WEST PAKISTAN

 94  2194 F2 66  2  7 2439164 29.8 N  69.7 E 47 710 33.  33
 103.7     3.6  4 40 13.9  4 26  9.1  2194 F2    66/02/07
 2439164   29.8 N   069.7 E   6.0
               33    103.7        3.6   04-40-13.9   04-26-09.
1   TLMSPUQVMY                                     47 BALUC
HISTAN                     710 WEST PAKISTAN

 94  2194 F3 66  2  7 2439164 29.8 N  69.7 E 47 710 33.  33
 103.7     3.6  4 40 13.9  4 26  9.1  2194 F3    66/02/07
 2439164   29.8 N   069.7 E   6.0
               33    103.7        3.6   04-40-13.9   04-26-09.
1   TLMSPUQVMY                                     47 BALUC
HISTAN                     710 WEST PAKISTAN

 94  2194 F4 66  2  7 2439164 29.8 N  69.7 E 47 710 33.  33
 103.7     3.6  4 40 13.9  4 26  9.1  2194 F4    66/02/07
 2439164   29.8 N   069.7 E   6.0
               33    103.7        3.6   04-40-13.9   04-26-09.
1   TLMSPUQVMY                                     47 BALUC
HISTAN                     710 WEST PAKISTAN

 95  2805 BM 66  5 20 2439266 13.9 N 146.1 E 17 210 66.  66
  91.7   292.3  9 27 50.9  9 14 40.2  2805 BM    66/05/20
 2439266   13.9 N   146.1 E   6.0
               66     91.7      292.3   09-27-50.9   09-14-40.
2   FRFEGQGLIU                                     17 CAROL
INE ISLANDS TO GUAM        210 SOUTH OF MARIANA ISLANDS
```

```
  95  2805 F1 66  5 20 2439266 13.9 N 146.1 E 17 210 66.  66
   91.7    292.3   9 27 50.9  9 14 40.2  2805 F1     66/05/20
  2439266    13.9 N    146.1 E    6.0
                     66     91.7     292.3    09-27-50.9    09-14-40.
 2   FRFEGQGLIU                                             17 CAROL
 INE ISLANDS TO GUAM          210 SOUTH OF MARIANA ISLANDS

  95  2805 F2 66  5 20 2439266 13.9 N 146.1 E 17 210 66.  66
   91.7    292.3   9 27 50.9  9 14 40.2  2805 F2     66/05/20
  2439266    13.9 N    146.1 E    6.0
                     66     91.7     292.3    09-27-50.9    09-14-40.
 2   FRFEGQGLIU                                             17 CAROL
 INE ISLANDS TO GUAM          210 SOUTH OF MARIANA ISLANDS

  95  2805 F3 66  5 20 2439266 13.9 N 146.1 E 17 210 66.  66
   91.7    292.3   9 27 50.9  9 14 40.2  2805 F3     66/05/20
  2439266    13.9 N    146.1 E    6.0
                     66     91.7     292.3    09-27-50.9    09-14-40.
 2   FRFEGQGLIU                                             17 CAROL
 INE ISLANDS TO GUAM          210 SOUTH OF MARIANA ISLANDS

  95  2805 F4 66  5 20 2439266 13.9 N 146.1 E 17 210 66.  66
   91.7    292.3   9 27 50.9  9 14 40.2  2805 F4     66/05/20
  2439266    13.9 N    146.1 E    6.0
                     66     91.7     292.3    09-27-50.9    09-14-40.
 2   FRFEGQGLIU                                             17 CAROL
 INE ISLANDS TO GUAM          210 SOUTH OF MARIANA ISLANDS

  96  2806 BM 66  5 20 2439266 55.0 N 165.7 E  1    4 46.  46
   52.7    313.7 11 53 40.6 11 44 22.4  2806 BM     66/05/20
  2439266    55.0 N    165.7 E    5.2
                     46     52.7     313.7    11-53-40.6    11-44-22.
 4   TYQYELFOFF                                              1 ALASK
 A - ALEUTIAN ARC                      4 KOMANDORSKY ISLANDS REGION

  96  2806 F1 66  5 20 2439266 55.0 N 165.7 E  1    4 46.  46
   52.7    313.7 11 53 40.6 11 44 22.4  2806 F1     66/05/20
  2439266    55.0 N    165.7 E    5.2
                     46     52.7     313.7    11-53-40.6    11-44-22.
 4   TYQYELFOFF                                              1 ALASK
 A - ALEUTIAN ARC                      4 KOMANDORSKY ISLANDS REGION

  96  2806 F2 66  5 20 2439266 55.0 N 165.7 E  1    4 46.  46
   52.7    313.7 11 53 40.6 11 44 22.4  2806 F2     66/05/20
  2439266    55.0 N    165.7 E    5.2
                     46     52.7     313.7    11-53-40.6    11-44-22.
 4   TYQYELFOFF                                              1 ALASK
 A - ALEUTIAN ARC                      4 KOMANDORSKY ISLANDS REGION

  96  2806 F3 66  5 20 2439266 55.0 N 165.7 E  1    4 46.  46
   52.7    313.7 11 53 40.6 11 44 22.4  2806 F3     66/05/20
  2439266    55.0 N    165.7 E    5.2
                     46     52.7     313.7    11-53-40.6    11-44-22.
 4   TYQYELFOFF                                              1 ALASK
 A - ALEUTIAN ARC                      4 KOMANDORSKY ISLANDS REGION

  96  2806 F4 66  5 20 2439266 55.0 N 165.7 E  1    4 46.  46
   52.7    313.7 11 53 40.6 11 44 22.4  2806 F4     66/05/20
  2439266    55.0 N    165.7 E    5.2
                     46     52.7     313.7    11-53-40.6    11-44-22.
 4    TYQYELFUFF                                           1 ALASK
 A - ALEUTIAN ARC                   4 KOMANDORSKY ISLANDS REGION

  97  2831 BM 66  5 25 2439271 -6.4 S 131.1 E 24 280 39.  39
  116.8   290.6  8 47 39.2  8 32 37.0  2831 BM    66/05/25
  2439271    6.4 S   131.1 E   5.8
                    39   116.8    290.6   08-47-39.2   08-32-37.
 0    IPIKMQRPHL                                           24 SUNDA
  ARC                              280 BANDA SEA

  97  2831 F1 66  5 25 2439271 -6.4 S 131.1 E 24 280 39.  39
  116.8   290.6  8 47 39.2  8 32 37.0  2831 F1    66/05/25
  2439271    6.4 S   131.1 E   5.8
                    39   116.8    290.6   08-47-39.2   08-32-37.
 0    IPIKMQRPHL                                           24 SUNDA
  ARC                              280 BANDA SEA

  97  2831 F2 66  5 25 2439271 -6.4 S 131.1 E 24 280 39.  39
  116.8   290.6  8 47 39.2  8 32 37.0  2831 F2    66/05/25
  2439271    6.4 S   131.1 E   5.8
                    39   116.8    290.6   08-47-39.2   08-32-37.
 0    IPIKMQRPHL                                           24 SUNDA
  ARC                              280 BANDA SEA

  97  2831 F3 66  5 25 2439271 -6.4 S 131.1 E 24 280 39.  39
  116.8   290.6  8 47 39.2  8 32 37.0  2831 F3    66/05/25
  2439271    6.4 S   131.1 E   5.8
                    39   116.8    290.6   08-47-39.2   08-32-37.
 0    IPIKMQRPHL                                           24 SUNDA
  ARC                              280 BANDA SEA

  97  2831 F4 66  5 25 2439271 -6.4 S 131.1 E 24 280 39.  39
  116.8   290.6  8 47 39.2  8 32 37.0  2831 F4    66/05/25
  2439271    6.4 S   131.1 E   5.8
                    39   116.8    290.6   08-47-39.2   08-32-37.
 0    IPIKMQRPHL                                           24 SUNDA
  ARC                              280 BANDA SEA

  98  2883 BM 66  6  4 2439281 34.0 N  77.0 E 26 302207. 207
   99.5   357.3  5 25  4.8  5 11 18.6  2883 BM    66/06/04
  2439281   34.0 N   077.0 E   5.7
                   207    99.5    357.3   05-25-04.8   05-11-18.
 6    QPMLVHCGSI                                           26 INDIA
  - TIBET - SZECHWAN - YUNAN 302 EASTERN KASHMIR

  98  2883 F1 66  6  4 2439281 34.0 N  77.0 E 26 302207. 207
   99.5   357.3  5 25  4.8  5 11 18.6  2883 F1    66/06/04
  2439281   34.0 N   077.0 E   5.7
                   207    99.5    357.3   05-25-04.8   05-11-18.
 6    QPMLVHCGSI                                           26 INDIA
  - TIBET - SZECHWAN - YUNAN 302 EASTERN KASHMIR

  98  2883 F2 66  6  4 2439281 34.0 N  77.0 E 26 302207. 207
   99.5   357.3  5 25  4.8  5 11 18.6  2883 F2    66/06/04
  2439281   34.0 N   077.0 E   5.7
                   207    99.5    357.3   05-25-04.8   05-11-18.
 6    QPMLVHCGSI                                           26 INDIA
  - TIBET - SZECHWAN - YUNAN 302 EASTERN KASHMIR

  98  2883 F3 66  6  4 2439281 34.0 N  77.0 E 26 302207. 207
  99.5    357.3  5 25  4.8  5 11 18.6  2883 F3     66/06/04
 2439281    34.0 N    077.0 E    5.7
                207      99.5      357.3    05-25-04.8    05-11-18.
6   QPMLVHCGSI                                          26 INDIA
 - TIBET - SZECHWAN - YUNAN 302 EASTERN KASHMIR

 98  2883 F4 66  6  4 2439281 34.0 N  77.0 E 26 302207. 207
  99.5    357.3  5 25  4.8  5 11 18.6  2883 F4     66/06/04
 2439281    34.0 N    077.0 E    5.7
                207      99.5      357.3    05-25-04.8    05-11-18.
6   QPMLVHCGSI                                          26 INDIA
 - TIBET - SZECHWAN - YUNAN 302 EASTERN KASHMIR

 99  2880 BM 66  6 10 2439287 47.0 N 155.0 E 19 222 33.  33
  62.8    310.6  9 21 56.0  9 11 26.5  2880 BM     66/06/10
 2439287    47.0 N    155.0 E    4.5
                 33      62.8      310.6    09-21-56.0    09-11-26.
5   VQSBLUEZHT                                          19 JAPAN
 - KURILES - KAMCHATKA       222 KURILE ISLANDS REGION

 99  2880 F1 66  6 10 2439287 47.0 N 155.0 E 19 222 33.  33
  62.8    310.6  9 21 56.0  9 11 26.5  2880 F1     66/06/10
 2439287    47.0 N    155.0 E    4.5
                 33      62.8      310.6    09-21-56.0    09-11-26.
5   VQSBLUEZHT                                          19 JAPAN
 - KURILES - KAMCHATKA       222 KURILE ISLANDS REGION

 99  2880 F2 66  6 10 2439287 47.0 N 155.0 E 19 222 33.  33
  62.8    310.6  9 21 56.0  9 11 26.5  2880 F2     66/06/10
 2439287    47.0 N    155.0 E    4.5
                 33      62.8      310.6    09-21-56.0    09-11-26.
5   VQSBLUEZHT                                          19 JAPAN
 - KURILES - KAMCHATKA       222 KURILE ISLANDS REGION

 99  2880 F3 66  6 10 2439287 47.0 N 155.0 E 19 222 33.  33
  62.8    310.6  9 21 56.0  9 11 26.5  2880 F3     66/06/10
 2439287    47.0 N    155.0 E    4.5
                 33      62.8      310.6    09-21-56.0    09-11-26.
5   VQSBLUEZHT                                          19 JAPAN
 - KURILES - KAMCHATKA       222 KURILE ISLANDS REGION

 99  2880 F4 66  6 10 2439287 47.0 N 155.0 E 19 222 33.  33
  62.8    310.6  9 21 56.0  9 11 26.5  2880 F4     66/06/10
 2439287    47.0 N    155.0 E    4.5
                 33      62.8      310.6    09-21-56.0    09-11-26.
5   VQSBLUEZHT                                          19 JAPAN
 - KURILES - KAMCHATKA       222 KURILE ISLANDS REGION

100  2326 BM 66  6 30 2439307 43.6 N 132.2 E 51 661454. 454
  76.3    320.5  9 10 50.4  8 58 58.1  2326 BM     66/06/30
 2439307    43.6 N    132.2 E    5.4
                454      76.3      320.5    09-10-50.4    08-58-58.
1   EPLPQODVTH                                          51 S REG
 = 19,20 OR 41 AND D GT 300 661 NEAR E. COAST OF EASTERN RUS
SIA

100  2326 F1 66  6 30 2439307 43.6 N 132.2 E 51 661454. 454
  76.3    320.5  9 10 50.4  8 58 58.1  2326 F1     66/06/30
 2439307    43.6 N    132.2 E    5.4
                454      76.3      320.5    09-10-50.4    08-58-58.
 1    EPLPQODVTH                                         51 S REG
  = 19,20 OR 41 AND D GT 300 661 NEAR E. COAST OF EASTERN RUS
 SIA

 100  2326 F2 66  6 30 2439307 43.6 N 132.2 E 51 661454. 454
   76.3    320.5  9 10 50.4  8 58 58.1  2326 F2     66/06/30
  2439307   43.6 N   132.2 E   5.4
                454     76.3     320.5    09-10-50.4    08-58-58.
 1    EPLPQODVTH                                         51 S REG
  = 19,20 OR 41 AND D GT 300 661 NEAR E. COAST OF EASTERN RUS
 SIA

 100  2326 F3 66  6 30 2439307 43.6 N 132.2 E 51 661454. 454
   76.3    320.5  9 10 50.4  8 58 58.1  2326 F3     66/06/30
  2439307   43.6 N   132.2 E   5.4
                454     76.3     320.5    09-10-50.4    08-58-58.
 1    EPLPQODVTH                                         51 S REG
  = 19,20 OR 41 AND D GT 300 661 NEAR E. COAST OF EASTERN RUS
 SIA

 100  2326 F4 66  6 30 2439307 43.6 N 132.2 E 51 661454. 454
   76.3    320.5  9 10 50.4  8 58 58.1  2326 F4     66/06/30
  2439307   43.6 N   132.2 E   5.4
                454     76.3     320.5    09-10-50.4    08-58-58.
 1    EPLPQODVTH                                         51 S REG
  = 19,20 OR 41 AND D GT 300 661 NEAR E. COAST OF EASTERN RUS
 SIA

 101  2904 BM 66  7  7 2439314 12.6 N 144.2 E 17 210 40.  40
  93.9    292.9  9 59 48.1  9 46 27.4  2904 BM     66/07/07
 2439314   12.6 N   144.2 E   5.3
               40     93.9     292.9    09-59-44.1    09-46-27.4
    ZWTUYWOQZL                                          17 CAROLI
 NE ISLANDS TO GUAM          210 SOUTH OF MARIANA ISLANDS

 101  2904 F1 66  7  7 2439314 12.6 N 144.2 E 17 210 40.  40
   93.9    292.9  9 59 48.1  9 46 27.4  2904 F1     66/07/07
  2439314   12.6 N   144.2 E   5.3
                40     93.9     292.9    09-59-48.1    09-46-27.
 4    ZWTUYWOQZL                                         17 CAROL
 INE ISLANDS TO GUAM          210 SOUTH OF MARIANA ISLANDS

 101  2904 F2 66  7  7 2439314 12.6 N 144.2 E 17 210 40.  40
   93.9    292.9  9 59 48.1  9 46 27.4  2904 F2     66/07/07
  2439314   12.6 N   144.2 E   5.3
                40     93.9     292.9    09-59-48.1    09-46-27.
 4    ZWTUYWOQZL                                         17 CAROL
 INE ISLANDS TO GUAM          210 SOUTH OF MARIANA ISLANDS

 101  2904 F3 66  7  7 2439314 12.6 N 144.2 E 17 210 40.  40
   93.9    292.9  9 59 48.1  9 46 27.4  2904 F3     66/07/07
  2439314   12.6 N   144.2 E   5.3
                40     93.9     292.9    09-59-48.1    09-46-27.
 4    ZWTUYWOQZL                                         17 CAROL
 INE ISLANDS TO GUAM          210 SOUTH OF MARIANA ISLANDS

 101  2904 F4 66  7  7 2439314 12.6 N 144.2 E 17 210 40.  40
   93.9    292.9  9 59 48.1  9 46 27.4  2904 F4     66/07/07
  2439314   12.6 N   144.2 E   5.3
                40     93.9     292.9    09-59-48.1    09-46-27.
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4   ZWTUYWOQ7L                                                 17 CAROL
INE ISLANDS TO GUAM              210 SOUTH OF MARIANA ISLANDS

102  1178 BM 66  8 19 2439357 36.4 N 141.7 E 19 228 28.  28
  77.3    310.1 12 58 17.3 12 46 19.7  1178 BM     66/08/19
 2439357    36.4 N    141.7 E    5.5
                 28      77.3      310.1    12-58-17.3    12-46-19.
7   ZROBQJSRLM                                                 19 JAPAN
 - KURILES - KAMCHATKA         228 NEAR EAST COAST OF HONSHU, J
APAN
102  1178 F1 66  8 19 2439357 36.4 N 141.7 E 19 228 28.  28
  77.3    310.1 12 58 17.3 12 46 19.7  1178 F1      66/08/19
 2439357    36.4 N    141.7 E    5.5
                 28      77.3      310.1    12-58-17.3    12-46-19.
7   ZROBQJSRLM                                                 19 JAPAN
 - KURILES - KAMCHATKA         228 NEAR EAST COAST OF HONSHU, J
APAN
102  1178 F2 66  8 19 2439357 36.4 N 141.7 E 19 228 28.  28
  77.3    310.1 12 58 17.3 12 46 19.7  1178 F2      66/08/19
 2439357    36.4 N    141.7 E    5.5
                 28      77.3      310.1    12-58-17.3    12-46-19.
7   ZROBQJSRLM                                                 19 JAPAN
 - KURILES - KAMCHATKA         228 NEAR EAST COAST OF HONSHU, J
APAN
102  1178 F3 66  8 19 2439357 36.4 N 141.7 E 19 228 28.  28
  77.3    310.1 12 58 17.3 12 46 19.7  1178 F3      66/08/19
 2439357    36.4 N    141.7 E    5.5
                 28      77.3      310.1    12-58-17.3    12-46-19.
7   ZROBQJSRLM                                                 19 JAPAN
 - KURILES - KAMCHATKA         228 NEAR EAST COAST OF HONSHU, J
APAN
102  1178 F4 66  8 19 2439357 36.4 N 141.7 E 19 228 28.  28
  77.3    310.1 12 58 17.3 12 46 19.7  1178 F4      66/08/19
 2439357    36.4 N    141.7 E    5.5
                 28      77.3      310.1    12-58-17.3    12-46-19.
7   ZROBQJSRLM                                                 19 JAPAN
 - KURILES - KAMCHATKA         228 NEAR EAST COAST OF HONSHU, J
APAN
103  2014 BM 66  9 10 2439379 46.6 N 144.1 E 51 663335. 335
  68.5    315.9  2 38 16.2  2 27 10.1  2014 BM      66/09/10
 2439379    46.6 N    144.1 E    5.2
                335      68.5      315.9    02-38-16.2    02-27-10.
1   VESJLQRECZ                                                 51 S REG
 = 19,20 OR 41 AND D GT 300 663 SEA OF OKHOTSK

103  2014 F1 66  9 10 2439379 46.6 N 144.1 E 51 663335. 335
  68.5    315.9  2 38 16.2  2 27 10.1  2014 F1      66/09/10
 2439379    46.6 N    144.1 E    5.2
                335      68.5      315.9    02-38-16.2    02-27-10.
1   VESJLQRECZ                                                 51 S REG
 = 19,20 OR 41 AND D GT 300 663 SEA OF OKHOTSK

103  2014 F2 66  9 10 2439379 46.6 N 144.1 E 51 663335. 335
  68.5    315.9  2 38 16.2  2 27 10.1  2014 F2      66/09/10
 2439379    46.6 N    144.1 E    5.2
                335      68.5      315.9    02-38-16.2    02-27-10.
1   VESJLQRECZ                                                 51 S REG
 = 19,20 OR 41 AND D GT 300 663 SEA OF OKHOTSK

103  2014 F3 66  9 10 2439379 46.6 N 144.1 E 51 663335. 335
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  68.5   315.9  2 38 16.2  2 27 10.1  2014 F3    66/09/10
 2439379   46.6 N   144.1 E   5.2
               335     68.5     315.9   02-38-16.2   02-27-10.
1   VESJLQRECZ                                        51 S REG
 = 19,20 OR 41 AND D GT 300 663 SEA OF OKHOTSK

103  2014 F4 66  9 10 2439379 46.6 N 144.1 E 51 663335. 335
  68.5   315.9  2 38 16.2  2 27 10.1  2014 F4    66/09/10
 2439379   46.6 N   144.1 E   5.2
               335     68.5     315.9   02-38-16.2   02-27-10.
1   VESJLQRECZ                                        51 S REG
 = 19,20 OR 41 AND D GT 300 663 SEA OF OKHOTSK

104  1545 BM 66 10 15 2439414 45.7 N  26.3 E 52 358120. 120
  78.9     31.7  7 11  8.6  6 59  2.0  1545 BM    66/10/15
 2439414   45.7 N   026.3 E   4.8
               120     78.9      31.7   07-11-08.6   06-59-02.
0   HITLOVBQWJ                                        52 G REG
 = 358 AND D GT 70           358 RUMANIA

104  1545 F1 66 10 15 2439414 45.7 N  26.3 E 52 358120. 120
  78.9     31.7  7 11  8.6  6 59  2.0  1545 F1    66/10/15
 2439414   45.7 N   026.3 E   4.8
               120     78.9      31.7   07-11-08.6   06-59-02.
0   HITLOVBQWJ                                        52 G REG
 = 358 AND D GT 70           358 RUMANIA

104  1545 F2 66 10 15 2439414 45.7 N  26.3 E 52 358120. 120
  78.9     31.7  7 11  8.6  6 59  2.0  1545 F2    66/10/15
 2439414   45.7 N   026.3 E   4.8
               120     78.9      31.7   07-11-08.6   06-59-02.
0   HITLOVBQWJ                                        52 G REG
 = 358 AND D GT 70           358 RUMANIA

104  1545 F3 66 10 15 2439414 45.7 N  26.3 E 52 358120. 120
  78.9     31.7  7 11  8.6  6 59  2.0  1545 F3    66/10/15
 2439414   45.7 N   026.3 E   4.8
               120     78.9      31.7   07-11-08.6   06-59-02.
0   HITLOVBQWJ                                        52 G REG
 = 358 AND D GT 70           358 RUMANIA

104  1545 F4 66 10 15 2439414 45.7 N  26.3 E 52 358120. 120
  78.9     31.7  7 11  8.6  6 59  2.0  1545 F4    66/10/15
 2439414   45.7 N   026.3 E   4.8
               120     78.9      31.7   07-11-08.6   06-59-02.
0   HITLOVBQWJ                                        52 G REG
 = 358 AND D GT 70           358 RUMANIA

105  1660 BM 66 10 29 2439428 39.2 N  21.2 E 30 364 20.  20
  82.4     38.4  2 51 51.7  2 39 26.7  1660 BM    66/10/29
 2439428   39.2 N   021.2 E   5.7
                20     82.4      38.4   02-51-51.7   02-39-26.
7   CJLFFQVZJI                                        30 MIDDL
E EAST - CRIMEA - BALKANS   364 GREECE

105  1660 F1 66 10 29 2439428 39.2 N  21.2 E 30 364 20.  20
  82.4     38.4  2 51 51.7  2 39 26.7  1660 F1    66/10/29
 2439428   39.2 N   021.2 E   5.7
                20     82.4      38.4   02-51-51.7   02-39-26.
7   CJLFFQVZJI                                        30 MIDDL
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E EAST - CRIMEA - BALKANS   364 GREECE

105  1660 F2 66 10 29 2439428 39.2 N  21.2 E 30 364 20.  20
  82.4     38.4  2 51 51.7  2 39 26.7  1660 F2     66/10/29
 2439428   39.2 N    021.2 E    5.7
               20      82.4      38.4    02-51-51.7    02-39-26.
7   CJLFFQVZJI                                         30 MIDDL
E EAST - CRIMEA - BALKANS   364 GREECE

105  1660 F3 66 10 29 2439428 39.2 N  21.2 E 30 364 20.  20
  82.4     38.4  2 51 51.7  2 39 26.7  1660 F3     66/10/29
 2439428   39.2 N    021.2 E    5.7
               20      82.4      38.4    02-51-51.7    02-39-26.
7   CJLFFQVZJI                                         30 MIDDL
E EAST - CRIMEA - BALKANS   364 GREECE

105  1660 F4 66 10 29 2439428 39.2 N  21.2 E 30 364 20.  20
  82.4     38.4  2 51 51.7  2 39 26.7  1660 F4     66/10/29
 2439428   39.2 N    021.2 E    5.7
               20      82.4      38.4    02-51-51.7    02-39-26.
7   CJLFFQVZJI                                         30 MIDDL
E EAST - CRIMEA - BALKANS   364 GREECE

106  1714 BM 66 11  8 2439438 52.4 N 173.0 E  1   5 41.  41
  50.1    308.1 11 44 50.2 11 35 51.2  1714 BM     66/11/08
 2439438   52.4 N    173.0 E    4.9
               41      50.1     308.1    11-44-50.2    11-35-51.
2   QHTOWHIYSL                                          1 ALASK
A - ALEUTIAN ARC                    5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
106  1714 F1 66 11  8 2439438 52.4 N 173.0 E  1   5 41.  41
  50.1    308.1 11 44 50.2 11 35 51.2  1714 F1     66/11/08
 2439438   52.4 N    173.0 E    4.9
               41      50.1     308.1    11-44-50.2    11-35-51.
2   QHTOWHIYSL                                          1 ALASK
A - ALEUTIAN ARC                    5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
106  1714 F2 66 11  8 2439438 52.4 N 173.0 E  1   5 41.  41
  50.1    308.1 11 44 50.2 11 35 51.2  1714 F2     66/11/08
 2439438   52.4 N    173.0 E    4.9
               41      50.1     308.1    11-44-50.2    11-35-51.
2   QHTOWHIYSL                                          1 ALASK
A - ALEUTIAN ARC                    5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
106  1714 F3 66 11  8 2439438 52.4 N 173.0 E  1   5 41.  41
  50.1    308.1 11 44 50.2 11 35 51.2  1714 F3     66/11/08
 2439438   52.4 N    173.0 E    4.9
               41      50.1     308.1    11-44-50.2    11-35-51.
2   QHTOWHIYSL                                          1 ALASK
A - ALEUTIAN ARC                    5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
106  1714 F4 66 11  8 2439438 52.4 N 173.0 E  1   5 41.  41
  50.1    308.1 11 44 50.2 11 35 51.2  1714 F4     66/11/08
 2439438   52.4 N    173.0 E    4.9
               41      50.1     308.1    11-44-50.2    11-35-51.
2   QHTOWHIYSL                                          1 ALASK
A - ALEUTIAN ARC                    5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
107  1612 BM 66 11  9 2439439 26.9 N 125.5 E 21 245 39.  39
  93.1    315.5 11 39 36.1 11 26 18.8  1612 BM     66/11/09
  2439439   26.9 N    125.5 E   5.4
                 39     93.1     315.5   11-39-36.1   11-26-18.
 8   JQSVMLMDIC                                           21 TAIWA
 N                            245 NORTHEAST OF TAIWAN

 107  1612 F1 66 11  9 2439439 26.9 N 125.5 E 21 245 39.  39
   93.1    315.5 11 39 36.1 11 26 18.8  1612 F1     66/11/09
  2439439   26.9 N    125.5 E   5.4
                 39     93.1     315.5   11-39-36.1   11-26-18.
 8   JQSVMLMDIC                                           21 TAIWA
 N                            245 NORTHEAST OF TAIWAN

 107  1612 F2 66 11  9 2439439 26.9 N 125.5 E 21 245 39.  39
   93.1    315.5 11 39 36.1 11 26 18.8  1612 F2     66/11/09
  2439439   26.9 N    125.5 E   5.4
                 39     93.1     315.5   11-39-36.1   11-26-18.
 8   JQSVMLMDIC                                           21 TAIWA
 N                            245 NORTHEAST OF TAIWAN

 107  1612 F3 66 11  9 2439439 26.9 N 125.5 E 21 245 39.  39
   93.1    315.5 11 39 36.1 11 26 18.8  1612 F3     66/11/09
  2439439   26.9 N    125.5 E   5.4
                 39     93.1     315.5   11-39-36.1   11-26-18.
 8   JQSVMLMDIC                                           21 TAIWA
 N                            245 NORTHEAST OF TAIWAN

 107  1612 F4 66 11  9 2439439 26.9 N 125.5 E 21 245 39.  39
   93.1    315.5 11 39 36.1 11 26 18.8  1612 F4     66/11/09
  2439439   26.9 N    125.5 E   5.4
                 39     93.1     315.5   11-39-36.1   11-26-18.
 8   JQSVMLMDIC                                           21 TAIWA
 N                            245 NORTHEAST OF TAIWAN

 108  1674 BM 66 11 12 2439442-23.8 S -67.6 W  8 124126. 126
   78.5    144.4 12  2 19.7 11 50 15.3  1674 BM     66/11/12
  2439442   23.8 S    067.6 W   5.6
                126     78.5     144.4   12-02-19.7   11-50-15.
 3   UZRCLBJQFZ                                            8 ANDEA
 N SOUTH AMERICA              124 CHILE-BOLIVIA BORDER REGION

 108  1674 F1 66 11 12 2439442-23.8 S -67.6 W  8 124126. 126
   78.5    144.4 12  2 19.7 11 50 15.3  1674 F1     66/11/12
  2439442   23.8 S    067.6 W   5.6
                122     78.5     144.4   12-02-19.7   11-50-15.
 3   UZRCLBJQFZ                                            8 ANDEA
 N SOUTH AMERICA              124 CHILE-BOLIVIA BORDER REGION

 108  1674 F2 66 11 12 2439442-23.8 S -67.6 W  8 124126. 126
   78.5    144.4 12  2 19.7 11 50 15.3  1674 F2     66/11/12
  2439442   23.8 S    067.6 W   5.6
                126     78.5     144.4   12-02-19.7   11-50-15.
 3   UZRCLBJQFZ                                            8 ANDEA
 N SOUTH AMERICA              124 CHILE-BOLIVIA BORDER REGION

 108  1674 F3 66 11 12 2439442-23.8 S -67.6 W  8 124126. 126
   78.5    144.4 12  2 19.7 11 50 15.3  1674 F3     66/11/12
  2439442   23.8 S    067.6 W   5.6
                126     78.5     144.4   12-02-19.7   11-50-15.
 3   UZRCLBJQFZ                                            8 ANDEA
 N SOUTH AMERICA              124 CHILE-BOLIVIA BORDER REGION
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108  1674 F4 66 11 12 2439442-23.8 S -67.6 W  8 124126. 126
  78.5    144.4 12   2 19.7 11 50 15.3   1674 F4     66/11/12
 2439442    23.8 S    067.6 W    5.6
              126     78.5     144.4    12-02-19.7    11-50-15.
3   UZRCLBJQFZ                                         8 ANDEA
N SOUTH AMERICA              124 CHILE-BOLIVIA BORDER REGION

109  1675 BM 66 11 12 2439442 41.8 N 144.1 E 19 224 33.  33
  72.0    312.4 13   1  6.0 12 49 38.0   1675 BM     66/11/12
 2439442    41.8 N    144.1 E    5.8
              33      72.0     312.4    13-01-06.0    12-49-38.
0   HMGVQWLOGJ                                         19 JAPAN
 - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

109  1675 F1 66 11 12 2439442 41.8 N 144.1 E 19 224 33.  33
  72.0    312.4 13   1  6.0 12 49 38.0   1675 F1     66/11/12
 2439442    41.8 N    144.1 E    5.8
              33      72.0     312.4    13-01-06.0    12-49-38.
0   HMGVQWLOGJ                                         19 JAPAN
 - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

109  1675 F2 66 11 12 2439442 41.8 N 144.1 E 19 224 33.  33
  72.0    312.4 13   1  6.0 12 49 38.0   1675 F2     66/11/12
 2439442    41.8 N    144.1 E    5.8
              33      72.0     312.4    13-01-06.0    12-49-38.
0   HMGVQWLOGJ                                         19 JAPAN
 - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

109  1675 F3 66 11 12 2439442 41.8 N 144.1 E 19 224 33.  33
  72.0    312.4 13   1  6.0 12 49 38.0   1675 F3     66/11/12
 2439442    41.8 N    144.1 E    5.8
              33      72.0     312.4    13-01-06.0    12-49-38.
0   HMGVQWLOGJ                                         19 JAPAN
 - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

109  1675 F4 66 11 12 2439442 41.8 N 144.1 E 19 224 33.  33
  72.0    312.4 13   1  6.0 12 49 38.0   1675 F4     66/11/12
 2439442    41.8 N    144.1 E    5.8
              33      72.0     312.4    13-01-06.0    12-49-38.
0   HMGVQWLOGJ                                         19 JAPAN
 - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

110  2709 BM 66 11 19 2439449 35.0 N  23.5 E 30 370 33.  33
  86.9     39.1   7 25 22.6   7 12 34.9  2709 BM     66/11/19
 2439449    35.0 N    023.5 E    5.3
              33      86.9      39.1    07-25-22.6    07-12-34.
9   WPLKPGQGDR                                         30 MIDDL
E EAST - CRIMEA - BALKANS   370 CRETE

110  2709 F1 66 11 19 2439449 35.0 N  23.5 E 30 370 33.  33
  86.9     39.1   7 25 22.6   7 12 34.9  2709 F1     66/11/19
 2439449    35.0 N    023.5 E    5.3
              33      86.9      39.1    07-25-22.6    07-12-34.
9   WPLKPGQGDR                                         30 MIDDL
E EAST - CRIMEA - BALKANS   370 CRETE

110  2709 F2 66 11 19 2439449 35.0 N  23.5 E 30 370 33.  33
  86.9     39.1   7 25 22.6   7 12 34.9  2709 F2     66/11/19
 2439449    35.0 N    023.5 E    5.3
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                33     86.9      39.1    07-25-22.6    07-12-34.
9   WPLKPGQGDR                                            30 MIDDL
E EAST - CRIMEA - BALKANS   370 CRETE

110  2709 F3 66 11 19 2439449 35.0 N  23.5 E 30 370 33.  33
  86.9    39.1  7 25 22.6  7 12 34.9  2709 F3    66/11/19
 2439449   35.0 N   023.5 E   5.3
                33     86.9      39.1    07-25-22.6    07-12-34.
9   WPLKPGQGDR                                            30 MIDDL
E EAST - CRIMEA - BALKANS   370 CRETE

110  2709 F4 66 11 19 2439449 35.0 N  23.5 E 30 370 33.  33
  86.9    39.1  7 25 22.6  7 12 34.9  2709 F4    66/11/19
 2439449   35.0 N   023.5 E   5.3
                33     86.9      39.1    07-25-22.6    07-12-34.
9   WPLKPGQGDR                                            30 MIDDL
F EAST - CRIMEA - BALKANS   370 CRETE

111  2716 BM 66 11 19 2439449 40.5 N 142.7 E 19 228 33.  33
  73.7    312.2  7 42 46.3  7 31  9.2  2716 BM    66/11/19
 2439449   40.5 N   142.7 F   4.3
                33     73.7     312.2    07-42-46.3    07-31-09.
2   QILFPSIBOZ                                            19 JAPAN
 - KURILES - KAMCHATKA      228 NEAR EAST COAST OF HONSHU, J
APAN
111  2716 F1 66 11 19 2439449 40.5 N 142.7 E 19 228 33.  33
  73.7    312.2  7 42 46.3  7 31  9.2  2716 F1    66/11/19
 2439449   40.5 N   142.7 E   4.3
                33     73.7     312.2    07-42-46.3    07-31-09.
2   QILFPSIBOZ                                            19 JAPAN
 - KURILES - KAMCHATKA      228 NEAR EAST COAST OF HONSHU, J
APAN
111  2716 F2 66 11 19 2439449 40.5 N 142.7 E 19 228 33.  33
  73.7    312.2  7 42 46.3  7 31  9.2  2716 F2    66/11/19
 2439449   40.5 N   142.7 E   4.3
                33     73.7     312.2    07-42-46.3    07-31-09.
2   QILFPSIBOZ                                            19 JAPAN
 - KURILES - KAMCHATKA      228 NEAR EAST COAST OF HONSHU, J
APAN
111  2716 F3 66 11 19 2439449 40.5 N 142.7 E 19 228 33.  33
  73.7    312.2  7 42 46.3  7 31  9.2  2716 F3    66/11/19
 2439449   40.5 N   142.7 F   4.3
                33     73.7     312.2    07-42-46.3    07-31-09.
2   QILFPSIBOZ                                            19 JAPAN
 - KURILES - KAMCHATKA      228 NEAR EAST COAST OF HONSHU, J
APAN
111  2716 F4 66 11 19 2439449 40.5 N 142.7 E 19 228 33.  33
  73.7    312.2  7 42 46.3  7 31  9.2  2716 F4    66/11/19
 2439449   40.5 N   142.7 F   4.3
                33     73.7     312.2    07-42-46.3    07-31-09.
2   QILFPSIBOZ                                            19 JAPAN
 - KURILES - KAMCHATKA      228 NEAR EAST COAST OF HONSHU, J
APAN
112  1613 BM 66 11 21 2439451 46.7 N 152.5 E 19 221 40.  40
  64.3    311.6 12 30   .8 12 19 21.1  1613 BM    66/11/21
 2439451   46.7 N   152.5 F   5.6
                40     64.3     311.6    12-30-00.8    12-19-21.
1   VVPTEPLQIJ                                            19 JAPAN
 - KURILES - KAMCHATKA      221 KURILE ISLANDS
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112  1613 F1 66 11 21 2439451 46.7 N 152.5 E 19 221 40.  40
  64.3   311.6 12 30   .8 12 19 21.1  1613 F1     66/11/21
 2439451   46.7 N   152.5 E   5.6
                 40     64.3    311.6   12-30-00.8   12-19-21.
1   VVPTEPLQIJ                                         19 JAPAN
 - KURILES - KAMCHATKA      221 KURILE ISLANDS

112  1613 F2 66 11 21 2439451 46.7 N 152.5 E 19 221 40.  40
  64.3   311.6 12 30   .8 12 19 21.1  1613 F2     66/11/21
 2439451   46.7 N   152.5 E   5.6
                 40     64.3    311.6   12-30-00.8   12-19-21.
1   VVPTEPLQIJ                                         19 JAPAN
 - KURILES - KAMCHATKA      221 KURILE ISLANDS

112  1613 F3 66 11 21 2439451 46.7 N 152.5 E 19 221 40.  40
  64.3   311.6 12 30   .8 12 19 21.1  1613 F3     66/11/21
 2439451   46.7 N   152.5 E   5.6
                 40     64.3    311.6   12-30-00.8   12-19-21.
1   VVPTEPLQIJ                                         19 JAPAN
 - KURILES - KAMCHATKA      221 KURILE ISLANDS

112  1613 F4 66 11 21 2439451 46.7 N 152.5 E 19 221 40.  40
  64.3   311.6 12 30   .8 12 19 21.1  1613 F4     66/11/21
 2439451   46.7 N   152.5 E   5.6
                 40     64.3    311.6   12-30-00.8   12-19-21.
1   VVPTEPLQIJ                                         19 JAPAN
 - KURILES - KAMCHATKA      221 KURILE ISLANDS

113  2722 BM 66 11 22 2439452 48.2 N 146.7 E 51 663453. 453
  66.1   315.7   6 39 56.4  6 29  5.4  2722 BM     66/11/22
 2439452   48.2 N   146.7 E   5.6
                453     66.1    315.7   06-39-56.4   06-29-05.
4   HUVJUCDQCL                                         51 S REG
 = 19,20 OR 41 AND D GT 300 663 SEA OF OKHOTSK

113  2722 F1 66 11 22 2439452 48.2 N 146.7 E 51 663453. 453
  66.1   315.7   6 39 56.4  6 29  5.4  2722 F1     66/11/22
 2439452   48.2 N   146.7 E   5.6
                453     66.1    315.7   06-39-56.4   06-29-05.
4   HUVJUCDQCL                                         51 S REG
 = 19,20 OR 41 AND D GT 300 663 SEA OF OKHOTSK

113  2722 F2 66 11 22 2439452 48.2 N 146.7 E 51 663453. 453
  66.1   315.7   6 39 56.4  6 29  5.4  2722 F2     66/11/22
 2439452   48.2 N   146.7 E   5.6
                453     66.1    315.7   06-39-56.4   06-29-05.
4   HUVJUCDQCL                                         51 S REG
 = 19,20 OR 41 AND D GT 300 663 SEA OF OKHOTSK

113  2722 F3 66 11 22 2439452 48.2 N 146.7 E 51 663453. 453
  66.1   315.7   6 39 56.4  6 29  5.4  2722 F3     66/11/22
 2439452   48.2 N   146.7 E   5.6
                453     66.1    315.7   06-39-56.4   06-29-05.
4   HUVJUCDQCL                                         51 S REG
 = 19,20 OR 41 AND D GT 300 663 SEA OF OKHOTSK

113  2722 F4 66 11 22 2439452 48.2 N 146.7 E 51 663453. 453
  66.1   315.7   6 39 56.4  6 29  5.4  2722 F4     66/11/22
 2439452   48.2 N   146.7 E   5.6
                453     66.1    315.7   06-39-56.4   06-29-05.
 4   HUVJUCDQCL                                        51 S REG
 = 19,20 OR 41 AND D GT 300 663 SEA OF OKHOTSK

114  2956 BM 66 11 29 2439459 55.0 N 154.0 E 41 663 33.  33
  58.3   318.2  8 19 13.7  8  9 14.9  2956 BM    66/11/29
 2439459   55.0 N   154.0 E   4.3
                33     58.3    318.2   08-19-13.7   08-09-14.
9   EQOLVPWWJM                                         41 EASTE
RN ASIA                          663 SEA OF OKHOTSK

114  2956 F1 66 11 29 2439459 55.0 N 154.0 E 41 663 33.  33
  58.3   318.2  8 19 13.7  8  9 14.9  2956 F1    66/11/29
 2439459   55.0 N   154.0 E   4.3
                33     58.3    318.2   08-19-13.7   08-09-14.
9   EQOLVPWWJM                                         41 EASTE
RN ASIA                          663 SEA OF OKHOTSK

114  2956 F2 66 11 29 2439459 55.0 N 154.0 E 41 663 33.  33
  58.3   318.2  8 19 13.7  8  9 14.9  2956 F2    66/11/29
 2439459   55.0 N   154.0 E   4.3
                33     58.3    318.2   08-19-13.7   08-09-14.
9   EQOLVPWWJM                                         41 EASTE
RN ASIA                          663 SEA OF OKHOTSK

114  2956 F3 66 11 29 2439459 55.0 N 154.0 E 41 663 33.  33
  58.3   318.2  8 19 13.7  8  9 14.9  2956 F3    66/11/29
 2439459   55.0 N   154.0 E   4.3
                33     58.3    318.2   08-19-13.7   08-09-14.
9   EQOLVPWWJM                                         41 EASTE
RN ASIA                          663 SEA OF OKHOTSK

114  2956 F4 66 11 29 2439459 55.0 N 154.0 E 41 663 33.  33
  58.3   318.2  8 19 13.7  8  9 14.9  2956 F4    66/11/29
 2439459   55.0 N   154.0 E   4.3
                33     58.3    318.2   08-19-13.7   08-09-14.
9   EQOLVPWWJM                                         41 EASTE
RN ASIA                          663 SEA OF OKHOTSK

115 11295 BM 73  5  5 2441808 37.1 N 176.0 E 39 611 41.  41
  56.5   290.5  3 52 26.0  3 42 39.7 11295 BM    73/05/05
 2441808   37.1 N   176.0 E   5.4
                41     56.5    290.5   03-52-26.0   03-42-39.
7   WSHMPVQVLC                                         39 PACIF
IC BASIN                         611 NORTH PACIFIC OCEAN

115 11295 F1 73  5  5 2441808 37.1 N 176.0 E 39 611 41.  41
  56.5   290.5  3 52 26.0  3 42 39.7 11295 F1    73/05/05
 2441808   37.1 N   176.0 E   5.4
                41     56.5    290.5   03-52-26.0   03-42-39.
7   WSHMPVQVLC                                         39 PACIF
IC BASIN                         611 NORTH PACIFIC OCEAN

115 11295 F2 73  5  5 2441808 37.1 N 176.0 E 39 611 41.  41
  56.5   290.5  3 52 26.0  3 42 39.7 11295 F2    73/05/05
 2441808   37.1 N   176.0 E   5.4
                41     56.5    290.5   03-52-26.0   03-42-39.
7   WSHMPVQVLC                                         39 PACIF
IC BASIN                         611 NORTH PACIFIC OCEAN

115 11295 F3 73  5  5 2441808 37.1 N 176.0 E 39 611 41.  41
```

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   56.5   290.5  3 52 26.0  3 42 39.7 11295 F3     73/05/05
  2441808    37.1 N    176.0 E    5.4
                    41     56.5     290.5    03-52-26.0   03-42-39.
 7   WSHMPVQVLC                                            39 PACIF
 IC BASIN                        611 NORTH PACIFIC OCEAN

 115 11295 F4 73  5  5 2441808 37.1 N 176.0 E 39 611 41.  41
   56.5   290.5  3 52 26.0  3 42 39.7 11295 F4     73/05/05
  2441808    37.1 N    176.0 E    5.4
                    41     56.5     290.5    03-52-26.0   03-42-39.
 7   WSHMPVQVLC                                            39 PACIF
 IC BASIN                        611 NORTH PACIFIC OCEAN

 116 11300 BM 73  5  8 2441811 45.6 N 149.6 E 19 221 95.  95
   66.5   312.2  7 48 59.0  7 38  5.5 11300 BM     73/05/08
  2441811    45.6 N    149.6 E    5.4
                    95     66.5     312.2    07-48-59.0   07-38-05.
 5   QWPLRHEHTG                                            19 JAPAN
  - KURILES - KAMCHATKA         221 KURILE ISLANDS

 116 11300 F1 73  5  8 2441811 45.6 N 149.6 E 19 221 95.  95
   66.5   312.2  7 48 59.0  7 38  5.5 11300 F1     73/05/08
  2441811    45.6 N    149.6 E    5.4
                    95     66.5     312.2    07-48-59.0   07-38-05.
 5   QWPLRHEHTG                                            19 JAPAN
  - KURILES - KAMCHATKA         221 KURILE ISLANDS

 116 11300 F2 73  5  8 2441811 45.6 N 149.6 E 19 221 95.  95
   66.5   312.2  7 48 59.0  7 38  5.5 11300 F2     73/05/08
  2441811    45.6 N    149.6 E    5.4
                    95     66.5     312.2    07-48-59.0   07-38-05.
 5   QWPLRHEHTG                                            19 JAPAN
  - KURILES - KAMCHATKA         221 KURILE ISLANDS

 116 11300 F3 73  5  8 2441811 45.6 N 149.6 E 19 221 95.  95
   66.5   312.2  7 48 59.0  7 38  5.5 11300 F3     73/05/08
  2441811    45.6 N    149.6 E    5.4
                    95     66.5     312.2    07-48-59.0   07-38-05.
 5   QWPLRHEHTG                                            19 JAPAN
  - KURILES - KAMCHATKA         221 KURILE ISLANDS

 116 11300 F4 73  5  8 2441811 45.6 N 149.6 E 19 221 95.  95
   66.5   312.2  7 48 59.0  7 38  5.5 11300 F4     73/05/08
  2441811    45.6 N    149.6 E    5.4
                    95     66.5     312.2    07-48-59.0   07-38-05.
 5   QWPLRHEHTG                                            19 JAPAN
  - KURILES - KAMCHATKA         221 KURILE ISLANDS

 117 11383 BM 73  5 10 2441813 51.4 N-179.5 W  1   7 61.  61
   46.4   304.2 11 39 31.0 11 31    .9 11383 BM     73/05/10
  2441813    51.4 N    179.5 W    5.3
                    61     46.4     304.2    11-39-31.0   11-31-00.
 9   JQZVLSBMSM                                             1 ALASK
 A - ALEUTIAN ARC                   7 ANDREANOF ISLANDS, ALEUTIAN
 IS.
 117 11383 F1 73  5 10 2441813 51.4 N-179.5 W  1   7 61.  61
   46.4   304.2 11 39 31.0 11 31    .9 11383 F1     73/05/10
  2441813    51.4 N    179.5 W    5.3
                    61     46.4     304.2    11-39-31.0   11-31-00.
 9   JQZVLSBMSM                                             1 ALASK
```

```
A - ALEUTIAN ARC              7 ANDREANOF ISLANDS, ALEUTIAN
IS.
117 11383 F2 73  5 10 2441813 51.4 N-179.5 W  1   7 61.  61
  46.4   304.2 11 39 31.0 11 31    .9 11383 F2    73/05/10
 2441813   51.4 N   179.5 W   5.3
                61     46.4     304.2    11-39-31.0   11-31-00.
9   JQZVLSBMSM                                        1 ALASK
A - ALEUTIAN ARC              7 ANDREANOF ISLANDS, ALEUTIAN
IS.
117 11383 F3 73  5 10 2441813 51.4 N-179.5 W  1   7 61.  61
  46.4   304.2 11 39 31.0 11 31    .9 11383 F3    73/05/10
 2441813   51.4 N   179.5 W   5.3
                61     46.4     304.2    11-39-31.0   11-31-00.
9   JQZVLSBMSM                                        1 ALASK
A - ALEUTIAN ARC              7 ANDREANOF ISLANDS, ALEUTIAN
IS.
117 11383 F4 73  5 10 2441813 51.4 N-179.5 W  1   7 61.  61
  46.4   304.2 11 39 31.0 11 31    .9 11383 F4    73/05/10
 2441813   51.4 N   179.5 W   5.3
                61     46.4     304.2    11-39-31.0   11-31-00.
9   JQZVLSBMSM                                        1 ALASK
A - ALEUTIAN ARC              7 ANDREANOF ISLANDS, ALEUTIAN
IS.
118 11304 BM 73  5 10 2441813 19.0 N-104.8 W  5  55 33.  33
  27.7   177.1 17 50 53.0 17 45  1.4 11304 BM    73/05/10
 2441813   19.0 N   104.8 W   5.0
                33     27.7     177.1    17-50-53.0   17-45-01.
4   KUTLWQSPOB                                        5 MEXIC
0 - GUATEMALA AREA           55 NEAR COAST OF JALISCO, MEXIC
0
118 11304 F1 73  5 10 2441813 19.0 N-104.8 W  5  55 33.  33
  27.7   177.1 17 50 53.0 17 45  1.4 11304 F1    73/05/10
 2441813   19.0 N   104.8 W   5.0
                33     27.7     177.1    17-50-53.0   17-45-01.
4   KUTLWQSPOB                                        5 MEXIC
0 - GUATEMALA AREA           55 NEAR COAST OF JALISCO, MEXIC
0
118 11304 F2 73  5 10 2441813 19.0 N-104.8 W  5  55 33.  33
  27.7   177.1 17 50 53.0 17 45  1.4 11304 F2    73/05/10
 2441813   19.0 N   104.8 W   5.0
                33     27.7     177.1    17-50-53.0   17-45-01.
4   KUTLWQSPOB                                        5 MEXIC
0 - GUATEMALA AREA           55 NEAR COAST OF JALISCO, MEXIC
0
118 11304 F3 73  5 10 2441813 19.0 N-104.8 W  5  55 33.  33
  27.7   177.1 17 50 53.0 17 45  1.4 11304 F3    73/05/10
 2441813   19.0 N   104.8 W   5.0
                33     27.7     177.1    17-50-53.0   17-45-01.
4   KUTLWQSPOB                                        5 MEXIC
0 - GUATEMALA AREA           55 NEAR COAST OF JALISCO, MEXIC
0
118 11304 F4 73  5 10 2441813 19.0 N-104.8 W  5  55 33.  33
  27.7   177.1 17 50 53.0 17 45  1.4 11304 F4    73/05/10
 2441813   19.0 N   104.8 W   5.0
                33     27.7     177.1    17-50-53.0   17-45-01.
4   KUTLWQSPOB                                        5 MEXIC
0 - GUATEMALA AREA           55 NEAR COAST OF JALISCO, MEXIC
0
119 11312 BM 73  5 14 2441817 44.1 N 148.2 E 19 221 64.  64
  68.2   311.8  2 19  1.0  2  7 56.5 11312 BM    73/05/14
 2441817   44.1 N   148.2 E   5.5
                64     68.2     311.8   02-19-01.0   02-07-56.
5   DSMBMMQHSL                                       19 JAPAN
 - KURILES - KAMCHATKA        221 KURILE ISLANDS

119 11312 F1 73  5 14 2441817 44.1 N 148.2 E 19 221 64.  64
  68.2   311.8  2 19  1.0  2  7 56.5 11312 F1    73/05/14
 2441817   44.1 N   148.2 E   5.5
                64     68.2     311.8   02-19-01.0   02-07-56.
5   DSMBMMQHSL                                       19 JAPAN
 - KURILES - KAMCHATKA        221 KURILE ISLANDS

119 11312 F2 73  5 14 2441817 44.1 N 148.2 E 19 221 64.  64
  68.2   311.8  2 19  1.0  2  7 56.5 11312 F2    73/05/14
 2441817   44.1 N   148.2 F   5.5
                64     68.2     311.8   02-19-01.0   02-07-56.
5   DSMBMMQHSL                                       19 JAPAN
 - KURILES - KAMCHATKA        221 KURILE ISLANDS

119 11312 F3 73  5 14 2441817 44.1 N 148.2 E 19 221 64.  64
  68.2   311.8  2 19  1.0  2  7 56.5 11312 F3    73/05/14
 2441817   44.1 N   148.2 E   5.5
                64     68.2     311.8   02-19-01.0   02-07-56.
5   DSMBMMQHSL                                       19 JAPAN
 - KURILES - KAMCHATKA        221 KURILE ISLANDS

119 11312 F4 73  5 14 2441817 44.1 N 148.2 E 19 221 64.  64
  68.2   311.8  2 19  1.0  2  7 56.5 11312 F4    73/05/14
 2441817   44.1 N   148.2 E   5.5
                64     68.2     311.8   02-19-01.0   02-07-56.
5   DSMBMMQHSL                                       19 JAPAN
 - KURILES - KAMCHATKA        221 KURILE ISLANDS

120 11316 BM 73  5 17 2441820 41.0 N  82.2 E 27 321 33.  33
  92.3   353.6  9 38  9.0  9 24 55.6 11316 BM    73/05/17
 2441820   41.0 N   082.2 E   5.5
                33     92.3     353.6   09-38-09.0   09-24-55.
6   TQTUDDYEML                                       27 SOUTH
ERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CHI
NA
120 11316 F1 73  5 17 2441820 41.0 N  82.2 E 27 321 33.  33
  92.3   353.6  9 38  9.0  9 24 55.6 11316 F1    73/05/17
 2441820   41.0 N   082.2 E   5.5
                33     92.3     353.6   09-38-09.0   09-24-55.
6   TQTUDDYEML                                       27 SOUTH
ERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CHI
NA
120 11316 F2 73  5 17 2441820 41.0 N  82.2 E 27 321 33.  33
  92.3   353.6  9 38  9.0  9 24 55.6 11316 F2    73/05/17
 2441820   41.0 N   082.2 F   5.5
                33     92.3     353.6   09-38-09.0   09-24-55.
6   TQTUDDYEML                                       27 SOUTH
FRN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CHI
NA
120 11316 F3 73  5 17 2441820 41.0 N  82.2 E 27 321 33.  33
  92.3   353.6  9 38  9.0  9 24 55.6 11316 F3    73/05/17
 2441820   41.0 N   082.2 F   5.5
                33     92.3     353.6   09-38-09.0   09-24-55.
6   TQTUDDYEML                                       27 SOUTH
ERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CHI
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NA
120 11316 F4 73  5 17 2441820 41.0 N  82.2 E 27 321 33.  33
  92.3   353.6  9 38  9.0  9 24 55.6 11316 F4     73/05/17
 2441820   41.0 N   082.2 E   5.5
               33    92.3    353.6   09-38-09.0   09-24-55.
6  TQTUDDYEML                                      27 SOUTH
ERN SINKIANG TO KANSU      321 SOUTHERN SINKIANG PROV., CHI
NA
121 11324 BM 73  5 24 2441827 51.6 N-173.4 W  1   7 43.  43
  42.8   302.3 18 47 11.0 18 39  9.6 11324 BM     73/05/24
 2441827   51.6 N   173.4 W   5.4
               43    42.8    302.3   18-47-11.0   18-39-09.
6   DSPWQBPLFE                                     1 ALASK
A - ALEUTIAN ARC               7 ANDREANOF ISLANDS, ALEUTIAN
IS.
121 11324 F1 73  5 24 2441827 51.6 N-173.4 W  1   7 43.  43
  42.8   302.3 18 47 11.0 18 39  9.6 11324 F1     73/05/24
 2441827   51.6 N   173.4 W   5.4
               43    42.8    302.3   18-47-11.0   18-39-09.
6   DSPWQBPLFE                                     1 ALASK
A - ALEUTIAN ARC               7 ANDREANOF ISLANDS, ALEUTIAN
IS.
121 11324 F2 73  5 24 2441827 51.6 N-173.4 W  1   7 43.  43
  42.8   302.3 18 47 11.0 18 39  9.6 11324 F2     73/05/24
 2441827   51.6 N   173.4 W   5.4
               43    42.8    302.3   18-47-11.0   18-39-09.
6   DSPWQBPLFE                                     1 ALASK
A - ALEUTIAN ARC               7 ANDREANOF ISLANDS, ALEUTIAN
IS.
121 11324 F3 73  5 24 2441827 51.6 N-173.4 W  1   7 43.  43
  42.8   302.3 18 47 11.0 18 39  9.6 11324 F3     73/05/24
 2441827   51.6 N   173.4 W   5.4
               43    42.8    302.3   18-47-11.0   18-39-09.
6   DSPWQBPLFE                                     1 ALASK
A - ALEUTIAN ARC               7 ANDREANOF ISLANDS, ALEUTIAN
IS.
121 11324 F4 73  5 24 2441827 51.6 N-173.4 W  1   7 43.  43
  42.8   302.3 18 47 11.0 18 39  9.6 11324 F4     73/05/24
 2441827   51.6 N   173.4 W   5.4
               43    42.8    302.3   18-47-11.0   18-39-09.
6   DSPWQBPLFE                                     1 ALASK
A - ALEUTIAN ARC               7 ANDREANOF ISLANDS, ALEUTIAN
IS.
122 11330 BM 73  5 29 2441832 73.7 N    9.5 E 40 640 33.  33
  52.2    18.7  4 51 57.0  4 42 42.0 11330 BM     73/05/29
 2441832   73.7 N   0 9.5 E   4.8
               33    52.2     18.7   04-51-57.0   04-42-42.
0   ZKULVQCKOG                                    40 ARCTI
C ZONE                    640 GREENLAND SEA

122 11330 F1 73  5 29 2441832 73.7 N    9.5 E 40 640 33.  33
  52.2    18.7  4 51 57.0  4 42 42.0 11330 F1     73/05/29
 2441832   73.7 N   0 9.5 E   4.8
               33    52.2     18.7   04-51-57.0   04-42-42.
0   ZKULVQCKOG                                    40 ARCTI
C ZONE                    640 GREENLAND SEA

122 11330 F2 73  5 29 2441832 73.7 N    9.5 E 40 640 33.  33
  52.2    18.7  4 51 57.0  4 42 42.0 11330 F2     73/05/29
 2441832   73.7 N   0 9.5 E   4.8
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                      33      52.2       18.7    04-51-57.0    04-42-42.
0    ZKULVQCKOG                                                 40 ARCTI
C ZONE                            640 GREENLAND SEA

122 11330 F3 73  5 29 2441832 73.7 N    9.5 E 40 640 33.  33
  52.2     18.7   4 51 57.0  4 42 42.0 11330 F3     73/05/29
 2441832    73.7 N    0 9.5 E    4.8
                      33      52.2       18.7    04-51-57.0    04-42-42.
0    ZKULVQCKOG                                                 40 ARCTI
C ZONE                            640 GREENLAND SEA

122 11330 F4 73  5 29 2441832 73.7 N    9.5 E 40 640 33.  33
  52.2     18.7   4 51 57.0  4 42 42.0 11330 F4     73/05/29
 2441832    73.7 N    0 9.5 E    4.8
                      33      52.2       18.7    04-51-57.0    04-42-42.
0    ZKULVQCKOG                                                 40 ARCTI
C ZONE                            640 GREENLAND SEA

123 11331 BM 73  5 29 2441832 54.0 N-163.8 W  1  10 30.  30
  36.5    303.3  6 14 22.0  6  7 12.7 11331 BM     73/05/29
 2441832    54.0 N    163.8 W    6.0
                      30      36.5      303.3    06-14-22.0    06-07-12.
7    VLRFBQRZCR                                                  1 ALASK
A - ALEUTIAN ARC                   10 UNIMAK ISLAND REGION

123 11331 F1 73  5 29 2441832 54.0 N-163.8 W  1  10 30.  30
  36.5    303.3  6 14 22.0  6  7 12.7 11331 F1     73/05/29
 2441832    54.0 N    163.8 W    6.0
                      30      36.5      303.3    06-14-22.0    06-07-12.
7    VLRFBQRZCR                                                  1 ALASK
A - ALEUTIAN ARC                   10 UNIMAK ISLAND REGION

123 11331 F2 73  5 29 2441832 54.0 N-163.8 W  1  10 30.  30
  36.5    303.3  6 14 22.0  6  7 12.7 11331 F2     73/05/29
 2441832    54.0 N    163.8 W    6.0
                      30      36.5      303.3    06-14-22.0    06-07-12.
7    VLRFBQRZCR                                                  1 ALASK
A - ALEUTIAN ARC                   10 UNIMAK ISLAND REGION

123 11331 F3 73  5 29 2441832 54.0 N-163.8 W  1  10 30.  30
  36.5    303.3  6 14 22.0  6  7 12.7 11331 F3     73/05/29
 2441832    54.0 N    163.8 W    6.0
                      30      36.5      303.3    06-14-22.0    06-07-12.
7    VLRFBQRZCR                                                  1 ALASK
A - ALEUTIAN ARC                   10 UNIMAK ISLAND REGION

123 11331 F4 73  5 29 2441832 54.0 N-163.8 W  1  10 30.  30
  36.5    303.3  6 14 22.0  6  7 12.7 11331 F4     73/05/29
 2441832    54.0 N    163.8 W    6.0
                      30      36.5      303.3    06-14-22.0    06-07-12.
7    VLRFBQRZCR                                                  1 ALASK
A - ALEUTIAN ARC                   10 UNIMAK ISLAND REGION

124 11022 BM 73  6  7 2441841 14.2 N -91.9 W  5  71 70.  70
  34.6    155.0 18 34 46.0 18 27 53.5 11022 BM     73/06/07
 2441841    14.2 N    091.9 W    5.7
                      70      34.6      155.0    18-34-46.0    18-27-53.
5    DUTTQKZFPL                                                  5 MEXIC
0 - GUATEMALA AREA                 71 NEAR COAST OF GUATEMALA
```

```
124 11022 F1 73  6  7 2441841 14.2 N -91.9 W  5  71 70.  70
  34.6   155.0 18 34 46.0 18 27 53.5 11022 F1     73/06/07
 2441841    14.2 N    091.9 W    5.7
                70     34.6     155.0    18-34-46.0    18-27-53.
5   DUTTQKZFPL                                           5 MEXIC
0 - GUATEMALA AREA             71 NEAR COAST OF GUATEMALA

124 11022 F2 73  6  7 2441841 14.2 N -91.9 W  5  71 70.  70
  34.6   155.0 18 34 46.0 18 27 53.5 11022 F2     73/06/07
 2441841    14.2 N    091.9 W    5.7
                70     34.6     155.0    18-34-46.0    18-27-53.
5   DUTTQKZFPL                                           5 MEXIC
0 - GUATEMALA AREA             71 NEAR COAST OF GUATEMALA

124 11022 F3 73  6  7 2441841 14.2 N -91.9 W  5  71 70.  70
  34.6   155.0 18 34 46.0 18 27 53.5 11022 F3     73/06/07
 2441841    14.2 N    091.9 W    5.7
                70     34.6     155.0    18-34-46.0    18-27-53.
5   DUTTQKZFPL                                           5 MEXIC
0 - GUATEMALA AREA             71 NEAR COAST OF GUATEMALA

124 11022 F4 73  6  7 2441841 14.2 N -91.9 W  5  71 70.  70
  34.6   155.0 18 34 46.0 18 27 53.5 11022 F4     73/06/07
 2441841    14.2 N    091.9 W    5.7
                70     34.6     155.0    18-34-46.0    18-27-53.
5   DUTTQKZFPL                                           5 MEXIC
0 - GUATEMALA AREA             71 NEAR COAST OF GUATEMALA

125 11023 BM 73  6  9 2441843 39.4 N  95.4 E 27 322 33.  33
  92.1   343.4  8 18 32.0  8  5 19.7 11023 BM     73/06/09
 2441843    39.4 N    095.4 E    5.0
                33     92.1     343.4    08-18-32.0    08-05-19.
7   UTSGLQZEHY                                          27 SOUTH
ERN SINKIANG TO KANSU         322 KANSU PROVINCE, CHINA

125 11023 F1 73  6  9 2441843 39.4 N  95.4 E 27 322 33.  33
  92.1   343.4  8 18 32.0  8  5 19.7 11023 F1     73/06/09
 2441843    39.4 N    095.4 E    5.0
                33     92.1     343.4    08-18-32.0    08-05-19.
7   UTSGLQZEHY                                          27 SOUTH
ERN SINKIANG TO KANSU         322 KANSU PROVINCE, CHINA

125 11023 F2 73  6  9 2441843 39.4 N  95.4 E 27 322 33.  33
  92.1   343.4  8 18 32.0  8  5 19.7 11023 F2     73/06/09
 2441843    39.4 N    095.4 E    5.0
                33     92.1     343.4    08-18-32.0    08-05-19.
7   UTSGLQZEHY                                          27 SOUTH
ERN SINKIANG TO KANSU         322 KANSU PROVINCE, CHINA

125 11023 F3 73  6  9 2441843 39.4 N  95.4 E 27 322 33.  33
  92.1   343.4  8 18 32.0  8  5 19.7 11023 F3     73/06/09
 2441843    39.4 N    095.4 E    5.0
                33     92.1     343.4    08-18-32.0    08-05-19.
7   UTSGLQZEHY                                          27 SOUTH
ERN SINKIANG TO KANSU         322 KANSU PROVINCE, CHINA

125 11023 F4 73  6  9 2441843 39.4 N  95.4 E 27 322 33.  33
  92.1   343.4  8 18 32.0  8  5 19.7 11023 F4     73/06/09
 2441843    39.4 N    095.4 E    5.0
                33     92.1     343.4    08-18-32.0    08-05-19.
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7   UTSGLQZEHY                                          27 SOUTH
ERN SINKIANG TO KANSU        322 KANSU PROVINCE, CHINA

1
126 11089 BM 73  6 10 2441844 39.5 N  74.8 E 27 321 33.  33
 94.1   359.2 16  8 42.0 15 55 20.5 11089 BM    73/06/10
2441844   39.5 N   074.8 E   5.2
                33     94.1     359.2   16-08-42.0   15-55-20.5
   WBKULBTQVF                                          27 SOUTHE
RN SINKIANG TO KANSU       321 SOUTHERN SINKIANG PROV., CHIN
A
126 11089 F1 73  6 10 2441844 39.5 N  74.8 E 27 321 33.  33
  94.1   359.2 16  8 42.0 15 55 20.5 11089 F1    73/06/10
 2441844   39.5 N   074.8 E   5.2
                 33     94.1     359.2   16-08-42.0   15-55-20.
5   WBKULBTQVF                                          27 SOUTH
ERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CHI
NA
126 11089 F2 73  6 10 2441844 39.5 N  74.8 E 27 321 33.  33
  94.1   359.2 16  8 42.0 15 55 20.5 11089 F2    73/06/10
 2441844   39.5 N   074.8 E   5.2
                 33     94.1     359.2   16-08-42.0   15-55-20.
5   WBKULBTQVF                                          27 SOUTH
ERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CHI
NA
126 11089 F3 73  6 10 2441844 39.5 N  74.8 E 27 321 33.  33
  94.1   359.2 16  8 42.0 15 55 20.5 11089 F3    73/06/10
 2441844   39.5 N   074.8 E   5.2
                 33     94.1     359.2   16-08-42.0   15-55-20.
5   WBKULBTQVF                                          27 SOUTH
ERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CHI
NA
126 11089 F4 73  6 10 2441844 39.5 N  74.8 E 27 321 33.  33
  94.1   359.2 16  8 42.0 15 55 20.5 11089 F4    73/06/10
 2441844   39.5 N   074.8 E   5.2
                 33     94.1     359.2   16-08-42.0   15-55-20.
5   WBKULBTQVF                                          27 SOUTH
ERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CHI
NA
127 11028 BM 73  6 16 2441850 37.7 N  95.6 E 27 325 33.  33
  93.7   342.9  7 22 48.0  7  9 28.4 11028 BM    73/06/16
 2441850   37.7 N   095.6 E   5.4
                 33     93.7     342.9   07-22-48.0   07-09-28.
4   LDTDPWUQCE                                          27 SOUTH
ERN SINKIANG TO KANSU        325 TSINGHAI PROVINCE, CHINA

127 11028 F1 73  6 16 2441850 37.7 N  95.6 E 27 325 33.  33
  93.7   342.9  7 22 48.0  7  9 28.4 11028 F1    73/06/16
 2441850   37.7 N   095.6 E   5.4
                 33     93.7     342.9   07-22-48.0   07-09-28.
4   LDTDPWUQCE                                          27 SOUTH
ERN SINKIANG TO KANSU        325 TSINGHAI PROVINCE, CHINA

127 11028 F2 73  6 16 2441850 37.7 N  95.6 E 27 325 33.  33
  93.7   342.9  7 22 48.0  7  9 28.4 11028 F2    73/06/16
 2441850   37.7 N   095.6 E   5.4
                 33     93.7     342.9   07-22-48.0   07-09-28.
4   LDTDPWUQCE                                          27 SOUTH
ERN SINKIANG TO KANSU        325 TSINGHAI PROVINCE, CHINA
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127 11028 F3 73  6 16 2441850 37.7 N  95.6 E 27 325 33.  33
  93.7   342.9  7 22 48.0  7  9 28.4 11028 F3    73/06/16
 2441850   37.7 N   095.6 E   5.4
                33    93.7    342.9   07-22-48.0   07-09-28.
4  LDTDPWUQCE                                       27 SOUTH
ERN SINKIANG TO KANSU       325 TSINGHAI PROVINCE, CHINA

127 11028 F4 73  6 16 2441850 37.7 N  95.6 E 27 325 33.  33
  93.7   342.9  7 22 48.0  7  9 28.4 11028 F4    73/06/16
 2441850   37.7 N   095.6 E   5.4
                33    93.7    342.9   07-22-48.0   07-09-28.
4  LDTDPWUQCE                                       27 SOUTH
ERN SINKIANG TO KANSU       325 TSINGHAI PROVINCE, CHINA

128 11032 BM 73  6 17 2441851 43.2 N 145.8 E 19 224 48.  48
  70.1   312.4  3 55  2.0  3 43 46.1 11032 BM    73/06/17
 2441851   43.2 N   145.8 E   6.5
                48    70.1    312.4   03-55-02.0   03-43-46.
1  LMEDJIZCKQ                                       19 JAPAN
 - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

128 11032 F1 73  6 17 2441851 43.2 N 145.8 E 19 224 48.  48
  70.1   312.4  3 55  2.0  3 43 46.1 11032 F1    73/06/17
 2441851   43.2 N   145.8 E   6.5
                48    70.1    312.4   03-55-02.0   03-43-46.
1  LMEDJIZCKQ                                       19 JAPAN
 - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

128 11032 F2 73  6 17 2441851 43.2 N 145.8 E 19 224 48.  48
  70.1   312.4  3 55  2.0  3 43 46.1 11032 F2    73/06/17
 2441851   43.2 N   145.8 E   6.5
                48    70.1    312.4   03-55-02.0   03-43-46.
1  LMEDJIZCKQ                                       19 JAPAN
 - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

128 11032 F3 73  6 17 2441851 43.2 N 145.8 E 19 224 48.  48
  70.1   312.4  3 55  2.0  3 43 46.1 11032 F3    73/06/17
 2441851   43.2 N   145.8 E   6.5
                48    70.1    312.4   03-55-02.0   03-43-46.
1  LMEDJIZCKQ                                       19 JAPAN
 - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

128 11032 F4 73  6 17 2441851 43.2 N 145.8 E 19 224 48.  48
  70.1   312.4  3 55  2.0  3 43 46.1 11032 F4    73/06/17
 2441851   43.2 N   145.8 E   6.5
                48    70.1    312.4   03-55-02.0   03-43-46.
1  LMEDJIZCKQ                                       19 JAPAN
 - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

129 11034 BM 73  6 24 2441858 43.3 N 146.4 E 19 221 50.  50
  69.7   312.1  2 43 25.0  2 32 11.6 11034 BM    73/06/24
 2441858   43.3 N   146.4 E   6.3
                50    69.7    312.1   02-43-25.0   02-32-11.
6  LSCBCEKQYH                                       19 JAPAN
 - KURILES - KAMCHATKA      221 KURILE ISLANDS

129 11034 F1 73  6 24 2441858 43.3 N 146.4 E 19 221 50.  50
  69.7   312.1  2 43 25.0  2 32 11.6 11034 F1    73/06/24
 2441858   43.3 N   146.4 E   6.3
                50    69.7    312.1   02-43-25.0   02-32-11.
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6   LSCBCEKQYH                                        19 JAPAN
 - KURILES - KAMCHATKA       221 KURILE ISLANDS

129 11034 F2 73  6 24 2441858 43.3 N 146.4 E 19 221 50.  50
  69.7   312.1  2 43 25.0  2 32 11.6 11034 F2     73/06/24
 2441858   43.3 N    146.4 E    6.3
               50     69.7    312.1   02-43-25.0    02-32-11.
6   LSCBCEKQYH                                        19 JAPAN
 - KURILES - KAMCHATKA       221 KURILE ISLANDS

129 11034 F3 73  6 24 2441858 43.3 N 146.4 E 19 221 50.  50
  69.7   312.1  2 43 25.0  2 32 11.6 11034 F3     73/06/24
 2441858   43.3 N    146.4 E    6.3
               50     69.7    312.1   02-43-25.0    02-32-11.
6   LSCBCEKQYH                                        19 JAPAN
 - KURILES - KAMCHATKA       221 KURILE ISLANDS

129 11034 F4 73  6 24 2441858 43.3 N 146.4 E 19 221 50.  50
  69.7   312.1  2 43 25.0  2 32 11.6 11034 F4     73/06/24
 2441858   43.3 N    146.4 E    6.3
               50     69.7    312.1   02-43-25.0    02-32-11.
6   LSCBCEKQYH                                        19 JAPAN
 - KURILES - KAMCHATKA       221 KURILE ISLANDS

130 11095 BM 73  6 27 2441861 40.6 N  79.2 E 27 321 33.  33
  92.9   355.9 13 11 11.0 12 57 54.7 11095 BM     73/06/27
 2441861   40.6 N    079.2 E    5.0
               33     92.9    355.9   13-11-11.0    12-57-54.
7   CVFLOMJUSQ                                        27 SOUTH
ERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CHI
NA
130 11095 F1 73  6 27 2441861 40.6 N  79.2 E 27 321 33.  33
  92.9   355.9 13 11 11.0 12 57 54.7 11095 F1     73/06/27
 2441861   40.6 N    079.2 E    5.0
               33     92.9    355.9   13-11-11.0    12-57-54.
7   CVFLOMJUSQ                                        27 SOUTH
ERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CHI
NA
130 11095 F2 73  6 27 2441861 40.6 N  79.2 E 27 321 33.  33
  92.9   355.9 13 11 11.0 12 57 54.7 11095 F2     73/06/27
 2441861   40.6 N    079.2 E    5.0
               33     92.9    355.9   13-11-11.0    12-57-54.
7   CVFLOMJUSQ                                        27 SOUTH
ERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CHI
NA
130 11095 F3 73  6 27 2441861 40.6 N  79.2 E 27 321 33.  33
  92.9   355.9 13 11 11.0 12 57 54.7 11095 F3     73/06/27
 2441861   40.6 N    079.2 E    5.0
               33     92.9    355.9   13-11-11.0    12-57-54.
7   CVFLOMJUSQ                                        27 SOUTH
ERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CHI
NA
130 11095 F4 73  6 27 2441861 40.6 N  79.2 E 27 321 33.  33
  92.9   355.9 13 11 11.0 12 57 54.7 11095 F4     73/06/27
 2441861   40.6 N    079.2 E    5.0
               33     92.9    355.9   13-11-11.0    12-57-54.
7   CVFLOMJUSQ                                        27 SOUTH
ERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CHI
NA
131 11105 BM 73  6 29 2441863 21.1 N 143.1 E 18 215 24.  24
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  88.1   299.1  2 23 20.0  2 10 26.3 11105 BM     73/06/29
 2441863   21.1 N   143.1 E   5.7
               24    88.1    299.1   02-23-20.0   02-10-26.
3   QFULSYGTEH                                     18 GUAM
TO JAPAN                    215 MARIANA ISLANDS REGION

131 11105 F1 73  6 29 2441863 21.1 N 143.1 E 18 215 24.  24
  88.1   299.1  2 23 20.0  2 10 26.3 11105 F1     73/06/29
 2441863   21.1 N   143.1 E   5.7
               24    88.1    299.1   02-23-20.0   02-10-26.
3   QFULSYGTEH                                     18 GUAM
TO JAPAN                    215 MARIANA ISLANDS REGION

131 11105 F2 73  6 29 2441863 21.1 N 143.1 E 18 215 24.  24
  88.1   299.1  2 23 20.0  2 10 26.3 11105 F2     73/06/29
 2441863   21.1 N   143.1 E   5.7
               24    88.1    299.1   02-23-20.0   02-10-26.
3   QFULSYGTEH                                     18 GUAM
TO JAPAN                    215 MARIANA ISLANDS REGION

131 11105 F3 73  6 29 2441863 21.1 N 143.1 E 18 215 24.  24
  88.1   299.1  2 23 20.0  2 10 26.3 11105 F3     73/06/29
 2441863   21.1 N   143.1 E   5.7
               24    88.1    299.1   02-23-20.0   02-10-26.
3   QFULSYGTEH                                     18 GUAM
TO JAPAN                    215 MARIANA ISLANDS REGION

131 11105 F4 73  6 29 2441863 21.1 N 143.1 E 18 215 24.  24
  88.1   299.1  2 23 20.0  2 10 26.3 11105 F4     73/06/29
 2441863   21.1 N   143.1 E   5.7
               24    88.1    299.1   02-23-20.0   02-10-26.
3   QFULSYGTEH                                     18 GUAM
TO JAPAN                    215 MARIANA ISLANDS REGION

132 11042 BM 73  7  3 2441867 12.2 N 125.3 E 22 251 33.  33
 105.5   307.5  7  3 43.0  6 49 30.2 11042 BM     73/07/03
 2441867   12.2 N   125.3 E   6.1
               33   105.5    307.5   07-03-43.0   06-49-30.
2   RZFKVZHQLU                                     22 PHILI
PPINES                      251 SAMAR, PHILIPPINE ISLANDS

132 11042 F1 73  7  3 2441867 12.2 N 125.3 E 22 251 33.  33
 105.5   307.5  7  3 43.0  6 49 30.2 11042 F1     73/07/03
 2441867   12.2 N   125.3 E   6.1
               33   105.5    307.5   07-03-43.0   06-49-30.
2   RZFKVZHQLU                                     22 PHILI
PPINES                      251 SAMAR, PHILIPPINE ISLANDS

132 11042 F2 73  7  3 2441867 12.2 N 125.3 E 22 251 33.  33
 105.5   307.5  7  3 43.0  6 49 30.2 11042 F2     73/07/03
 2441867   12.2 N   125.3 E   6.1
               33   105.5    307.5   07-03-43.0   06-49-30.
2   RZFKVZHQLU                                     22 PHILI
PPINES                      251 SAMAR, PHILIPPINE ISLANDS

132 11042 F3 73  7  3 2441867 12.2 N 125.3 E 22 251 33.  33
 105.5   307.5  7  3 43.0  6 49 30.2 11042 F3     73/07/03
 2441867   12.2 N   125.3 E   6.1
               33   105.5    307.5   07-03-43.0   06-49-30.
2   RZFKVZHQLU                                     22 PHILI
```

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PPINES                      251 SAMAR, PHILIPPINE ISLANDS

132 11042 F4 73  7  3 2441867 12.2 N 125.3 E 22 251 33.  33
 105.5   307.5  7  3 43.0  6 49 30.2 11042 F4    73/07/03
 2441867   12.2 N   125.3 E   6.1
               33   105.5    307.5   07-03-43.0   06-49-30.
2   RZFKVZHQLU                                     22 PHILI
PPINES                      251 SAMAR, PHILIPPINE ISLANDS

133 11038 BM 73  7  1 2441865 57.8 N-137.3 W  2  20 33.  33
  21.8   312.1 13 33 34.0 13 28 38.0 11038 BM    73/07/01
 2441865   57.8 N   137.3 W   6.1
               33   21.8     312.1   13-33-34.0   13-28-38.
0   FYSWULRQUP                                      2 EASTE
RN ALASKA TO VANCOUVER ISLA  20 OFF COAST OF SOUTHEASTERN AL
ASKA
133 11038 F1 73  7  1 2441865 57.8 N-137.3 W  2  20 33.  33
  21.8   312.1 13 33 34.0 13 28 38.0 11038 F1    73/07/01
 2441865   57.8 N   137.3 W   6.1
               33   21.8     312.1   13-33-34.0   13-28-38.
0   FYSWULRQUP                                      2 EASTE
RN ALASKA TO VANCOUVER ISLA  20 OFF COAST OF SOUTHEASTERN AL
ASKA
133 11038 F2 73  7  1 2441865 57.8 N-137.3 W  2  20 33.  33
  21.8   312.1 13 33 34.0 13 28 38.0 11038 F2    73/07/01
 2441865   57.8 N   137.3 W   6.1
               33   21.8     312.1   13-33-34.0   13-28-38.
0   FYSWULRQUP                                      2 EASTE
RN ALASKA TO VANCOUVER ISLA  20 OFF COAST OF SOUTHEASTERN AL
ASKA
133 11038 F3 73  7  1 2441865 57.8 N-137.3 W  2  20 33.  33
  21.8   312.1 13 33 34.0 13 28 38.0 11038 F3    73/07/01
 2441865   57.8 N   137.3 W   6.1
               33   21.8     312.1   13-33-34.0   13-28-38.
0   FYSWULRQUP                                      2 EASTE
RN ALASKA TO VANCOUVER ISLA  20 OFF COAST OF SOUTHEASTERN AL
ASKA
133 11038 F4 73  7  1 2441865 57.8 N-137.3 W  2  20 33.  33
  21.8   312.1 13 33 34.0 13 28 38.0 11038 F4    73/07/01
 2441865   57.8 N   137.3 W   6.1
               33   21.8     312.1   13-33-34.0   13-28-38.
0   FYSWULRQUP                                      2 EASTE
RN ALASKA TO VANCOUVER ISLA  20 OFF COAST OF SOUTHEASTERN AL
ASKA
134 11039 BM 73  7  2 2441866 49.5 N -28.5 W 32 403 33.  33
  49.8    56.4  1  4 55.0  0 55 58.7 11039 BM    73/07/02
 2441866   49.5 N   028.5 W   5.0
               33   49.8      56.4   01-04-55.0   00-55-58.
7   IEOPLQYPRV                                     32 ATLAN
TIC OCEAN                   403 NORTH ATLANTIC RIDGE

134 11039 F1 73  7  2 2441866 49.5 N -28.5 W 32 403 33.  33
  49.8    56.4  1  4 55.0  0 55 58.7 11039 F1    73/07/02
 2441866   49.5 N   028.5 W   5.0
               33   49.8      56.4   01-04-55.0   00-55-58.
7   IEOPLQYPRV                                     32 ATLAN
TIC OCEAN                   403 NORTH ATLANTIC RIDGE

134 11039 F2 73  7  2 2441866 49.5 N -28.5 W 32 403 33.  33
  49.8    56.4  1  4 55.0  0 55 58.7 11039 F2    73/07/02
 2441866    49.5 N    028.5 W    5.0
                 33     49.8      56.4   01-04-55.0   00-55-58.
7   IEOPLQYPPV                                          32 ATLAN
TIC OCEAN                      403 NORTH ATLANTIC RIDGE

134 11039 F3 73  7  2 2441866 49.5 N -28.5 W 32 403 33.  33
  49.8     56.4  1  4 55.0  0 55 58.7 11039 F3     73/07/02
 2441866    49.5 N    028.5 W    5.0
                 33     49.8      56.4   01-04-55.0   00-55-58.
7   IEOPLQYPPV                                          32 ATLAN
TIC OCEAN                      403 NORTH ATLANTIC RIDGE

134 11039 F4 73  7  2 2441866 49.5 N -28.5 W 32 403 33.  33
  49.8     56.4  1  4 55.0  0 55 58.7 11039 F4     73/07/02
 2441866    49.5 N    028.5 W    5.0
                 33     49.8      56.4   01-04-55.0   00-55-58.
7   IEOPLQYPPV                                          32 ATLAN
TIC OCEAN                      403 NORTH ATLANTIC RIDGE

135 11040 BM 73  7  2 2441866 54.0 N 164.1 E 28 326 33.  33
  54.0    313.2  5 56 12.0  5 46 44.2 11040 BM     73/07/02
 2441866    54.0 N    164.1 E    5.4
                 33     54.0     313.2   05-56-12.0   05-46-44.
2   DJBOJBLQCZ                                          28 ALMA-
ATA TO LAKE BAIKAL             326 CENTRAL RUSSIA

135 11040 F1 73  7  2 2441866 54.0 N 164.1 E 28 326 33.  33
  54.0    313.2  5 56 12.0  5 46 44.2 11040 F1     73/07/02
 2441866    54.0 N    164.1 E    5.4
                 33     54.0     313.2   05-56-12.0   05-46-44.
2   DJBOJBLQCZ                                          28 ALMA-
ATA TO LAKE BAIKAL             326 CENTRAL RUSSIA

135 11040 F2 73  7  2 2441866 54.0 N 164.1 E 28 326 33.  33
  54.0    313.2  5 56 12.0  5 46 44.2 11040 F2     73/07/02
 2441866    54.0 N    164.1 F    5.4
                 33     54.0     313.2   05-56-12.0   05-46-44.
2   DJBOJBLQCZ                                          28 ALMA-
ATA TO LAKE BAIKAL             326 CENTRAL RUSSIA

135 11040 F3 73  7  2 2441866 54.0 N 164.1 E 28 326 33.  33
  54.0    313.2  5 56 12.0  5 46 44.2 11040 F3     73/07/02
 2441866    54.0 N    164.1 F    5.4
                 33     54.0     313.2   05-56-12.0   05-46-44.
2   DJBOJBLQCZ                                          28 ALMA-
ATA TO LAKE BAIKAL             326 CENTRAL RUSSIA

135 11040 F4 73  7  2 2441866 54.0 N 164.1 E 28 326 33.  33
  54.0    313.2  5 56 12.0  5 46 44.2 11040 F4     73/07/02
 2441866    54.0 N    164.1 E    5.4
                 33     54.0     313.2   05-56-12.0   05-46-44.
2   DJBOJBLQCZ                                          28 ALMA-
ATA TO LAKE BAIKAL             326 CENTRAL RUSSIA

136 11043 BM 73  7  3 2441867 44.1 N  13.3 E 31 382 47.  47
  75.0     40.4 16 10 12.0 15 58 27.2 11043 BM     73/07/03
 2441867    44.1 N    013.3 F    5.3
                 47     75.0      40.4   16-10-12.0   15-58-27.
2   YYRITUQPLC                                          31 WESTE
RN MEDITERRANEAN AREA          382 ADRIATIC SEA
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136 11043 F1 73  7  3 2441867 44.1 N  13.3 E 31 382 47.  47
  75.0     40.4 16 10 12.0 15 58 27.2 11043 F1     73/07/03
 2441867   44.1 N   013.3 E   5.3
                47     75.0      40.4   16-10-12.0   15-58-27.
2   YYRTTUQPLC                                        31 WESTE
RN MEDITERRANEAN AREA        382 ADRIATIC SEA

136 11043 F2 73  7  3 2441867 44.1 N  13.3 E 31 382 47.  47
  75.0     40.4 16 10 12.0 15 58 27.2 11043 F2     73/07/03
 2441867   44.1 N   013.3 E   5.3
                47     75.0      40.4   16-10-12.0   15-58-27.
2   YYRTTUQPLC                                        31 WESTE
RN MEDITERRANEAN AREA        382 ADRIATIC SEA

136 11043 F3 73  7  3 2441867 44.1 N  13.3 E 31 382 47.  47
  75.0     40.4 16 10 12.0 15 58 27.2 11043 F3     73/07/03
 2441867   44.1 N   013.3 E   5.3
                47     75.0      40.4   16-10-12.0   15-58-27.
2   YYRTTUQPLC                                        31 WESTE
RN MEDITERRANEAN AREA        382 ADRIATIC SEA

136 11043 F4 73  7  3 2441867 44.1 N  13.3 E 31 382 47.  47
  75.0     40.4 16 10 12.0 15 58 27.2 11043 F4     73/07/03
 2441867   44.1 N   013.3 E   5.3
                47     75.0      40.4   16-10-12.0   15-58-27.
2   YYRTTUQPLC                                        31 WESTE
RN MEDITERRANEAN AREA        382 ADRIATIC SEA

137 11047 BM 73  7  9 2441873 10.7 N  92.6 E 46 703 46.  46
 120.4    338.5 16 19 46.0 16  4 30.5 11047 BM     73/07/09
 2441873   10.7 N   092.6 E   5.7
                46     120.4    338.5   16-19-46.0   16-04-30.
5   KMQHSFTFLZ                                        46 ANDAM
AN ISLANDS TO SUMATRA        703 ANDAMAN ISLANDS REGION

137 11047 F1 73  7  9 2441873 10.7 N  92.6 E 46 703 46.  46
 120.4    338.5 16 19 46.0 16  4 30.5 11047 F1     73/07/09
 2441873   10.7 N   092.6 E   5.7
                46     120.4    338.5   16-19-46.0   16-04-30.
5   KMQHSFTFLZ                                        46 ANDAM
AN ISLANDS TO SUMATRA        703 ANDAMAN ISLANDS REGION

137 11047 F2 73  7  9 2441873 10.7 N  92.6 E 46 703 46.  46
 120.4    338.5 16 19 46.0 16  4 30.5 11047 F2     73/07/09
 2441873   10.7 N   092.6 E   5.7
                46     120.4    338.5   16-19-46.0   16-04-30.
5   KMQHSFTFLZ                                        46 ANDAM
AN ISLANDS TO SUMATRA        703 ANDAMAN ISLANDS REGION

137 11047 F3 73  7  9 2441873 10.7 N  92.6 E 46 703 46.  46
 120.4    338.5 16 19 46.0 16  4 30.5 11047 F3     73/07/09
 2441873   10.7 N   092.6 E   5.7
                46     120.4    338.5   16-19-46.0   16-04-30.
5   KMQHSFTFLZ                                        46 ANDAM
AN ISLANDS TO SUMATRA        703 ANDAMAN ISLANDS REGION

137 11047 F4 73  7  9 2441873 10.7 N  92.6 E 46 703 46.  46
 120.4    338.5 16 19 46.0 16  4 30.5 11047 F4     73/07/09
 2441873   10.7 N   092.6 E   5.7
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                46    120.4     338.5    16-19-46.0    16-04-30.
5    KMQHSFTFLZ                                                46 ANDAM
AN ISLANDS TO SUMATRA          703 ANDAMAN ISLANDS REGION

138 11051 BM 73  7 10 2441874 37.5 N 142.5 E 19 229 45.  45
  76.0   310.3 23 25 31.0 23 13 39.9 11051 BM    73/07/10
 2441874   37.5 N    142.5 E   5.2
                45    76.0     310.3    23-25-31.0    23-13-39.
9    ZLSFITCQSY                                                19 JAPAN
 - KURILES - KAMCHATKA        229 OFF EAST COAST OF HONSHU, JA
PAN
138 11051 F1 73  7 10 2441874 37.5 N 142.5 E 19 229 45.  45
  76.0   310.3 23 25 31.0 23 13 39.9 11051 F1    73/07/10
 2441874   37.5 N    142.5 E   5.2
                45    76.0     310.3    23-25-31.0    23-13-39.
9    ZLSFITCQSY                                                19 JAPAN
 - KURILES - KAMCHATKA        229 OFF EAST COAST OF HONSHU, JA
PAN
138 11051 F2 73  7 10 2441874 37.5 N 142.5 E 19 229 45.  45
  76.0   310.3 23 25 31.0 23 13 39.9 11051 F2    73/07/10
 2441874   37.5 N    142.5 E   5.2
                45    76.0     310.3    23-25-31.0    23-13-39.
9    ZLSFITCQSY                                                19 JAPAN
 - KURILES - KAMCHATKA        229 OFF EAST COAST OF HONSHU, JA
PAN
138 11051 F3 73  7 10 2441874 37.5 N 142.5 E 19 229 45.  45
  76.0   310.3 23 25 31.0 23 13 39.9 11051 F3    73/07/10
 2441874   37.5 N    142.5 E   5.2
                45    76.0     310.3    23-25-31.0    23-13-39.
9    ZLSFITCQSY                                                19 JAPAN
 - KURILES - KAMCHATKA        229 OFF EAST COAST OF HONSHU, JA
PAN
138 11051 F4 73  7 10 2441874 37.5 N 142.5 E 19 229 45.  45
  76.0   310.3 23 25 31.0 23 13 39.9 11051 F4    73/07/10
 2441874   37.5 N    142.5 E   5.2
                45    76.0     310.3    23-25-31.0    23-13-39.
9    ZLSFITCQSY                                                19 JAPAN
 - KURILES - KAMCHATKA        229 OFF EAST COAST OF HONSHU, JA
PAN
139 11080 BM 73  7 11 2441875 52.0 N-176.1 W  1    7 63.  63
  44.2   303.8 23 23 11.0 23 14 58.3 11080 BM    73/07/11
 2441875   52.0 N    176.1 W   5.1
                63    44.2     303.8    23-23-11.0    23-14-58.
3    HMLCSKKURQ                                                 1 ALASK
A - ALEUTIAN ARC                  7 ANDREANOF ISLANDS, ALEUTIAN
IS.
139 11080 F1 73  7 11 2441875 52.0 N-176.1 W  1    7 63.  63
  44.2   303.8 23 23 11.0 23 14 58.3 11080 F1    73/07/11
 2441875   52.0 N    176.1 W   5.1
                63    44.2     303.8    23-23-11.0    23-14-58.
3    HMLCSKKURQ                                                 1 ALASK
A - ALEUTIAN ARC                  7 ANDREANOF ISLANDS, ALEUTIAN
IS.
139 11080 F2 73  7 11 2441875 52.0 N-176.1 W  1    7 63.  63
  44.2   303.8 23 23 11.0 23 14 58.3 11080 F2    73/07/11
 2441875   52.0 N    176.1 W   5.1
                63    44.2     303.8    23-23-11.0    23-14-58.
3    HMLCSKKURQ                                                 1 ALASK
A - ALEUTIAN ARC                  7 ANDREANOF ISLANDS, ALEUTIAN
IS.
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139 11080 F3 73  7 11 2441875 52.0 N-176.1 W  1   7 63.  63
  44.2   303.8 23 23 11.0 23 14 58.3 11080 F3     73/07/11
 2441875   52.0 N   176.1 W   5.1
                63     44.2     303.8   23-23-11.0   23-14-58.
3   HMLCSKKURQ                                        1 ALASK
A - ALEUTIAN ARC                  7 ANDREANOF ISLANDS, ALEUTIAN
IS.
139 11080 F4 73  7 11 2441875 52.0 N-176.1 W  1   7 63.  63
  44.2   303.8 23 23 11.0 23 14 58.3 11080 F4     73/07/11
 2441875   52.0 N   176.1 W   5.1
                63     44.2     303.8   23-23-11.0   23-14-58.
3   HMLCSKKURQ                                        1 ALASK
A - ALEUTIAN ARC                  7 ANDREANOF ISLANDS, ALEUTIAN
IS.
140 11052 BM 73  7 12 2441876 52.2 N 174.2 E  1   5 47.  47
  49.6   307.4  7 51  7.0  7 42 12.6 11052 BM     73/07/12
 2441876   52.2 N   174.2 E   5.2
                47     49.6     307.4   07-51-07.0   07-42-12.
6   OGQGLUIHRB                                        1 ALASK
A - ALEUTIAN ARC                  5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
140 11052 F1 73  7 12 2441876 52.2 N 174.2 E  1   5 47.  47
  49.6   307.4  7 51  7.0  7 42 12.6 11052 F1     73/07/12
 2441876   52.2 N   174.2 E   5.2
                47     49.6     307.4   07-51-07.0   07-42-12.
6   OGQGLUIHRB                                        1 ALASK
A - ALEUTIAN ARC                  5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
140 11052 F2 73  7 12 2441876 52.2 N 174.2 E  1   5 47.  47
  49.6   307.4  7 51  7.0  7 42 12.6 11052 F2     73/07/12
 2441876   52.2 N   174.2 E   5.2
                47     49.6     307.4   07-51-07.0   07-42-12.
6   OGQGLUIHRB                                        1 ALASK
A - ALEUTIAN ARC                  5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
140 11052 F3 73  7 12 2441876 52.2 N 174.2 E  1   5 47.  47
  49.6   307.4  7 51  7.0  7 42 12.6 11052 F3     73/07/12
 2441876   52.2 N   174.2 E   5.2
                47     49.6     307.4   07-51-07.0   07-42-12.
6   OGQGLUIHRB                                        1 ALASK
A - ALEUTIAN ARC                  5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
140 11052 F4 73  7 12 2441876 52.2 N 174.2 E  1   5 47.  47
  49.6   307.4  7 51  7.0  7 42 12.6 11052 F4     73/07/12
 2441876   52.2 N   174.2 E   5.2
                47     49.6     307.4   07-51-07.0   07-42-12.
6   OGQGLUIHRB                                        1 ALASK
A - ALEUTIAN ARC                  5 NEAR ISLANDS, ALEUTIAN ISLAN
DS
141 11056 BM 73  7 14 2441878 35.2 N  86.5 E 26 306 33.  33
  97.6   349.5  4 51 21.0  4 37 43.6 11056 BM     73/07/14
 2441878   35.2 N   086.5 E   6.0
                33     97.6     349.5   04-51-21.0   04-37-43.
6   IQLZWBJHBM                                       26 INDIA
 - TIBET - SZECHWAN - YUNAN 306 TIBET

141 11056 F1 73  7 14 2441878 35.2 N  86.5 E 26 306 33.  33
  97.6   349.5  4 51 21.0  4 37 43.6 11056 F1     73/07/14
 2441878   35.2 N   086.5 E   6.0
                33     97.6     349.5   04-51-21.0   04-37-43.
 6   IQLZWBJHBM                                          26 INDIA
  - TIBET - SZECHWAN - YUNAN 306 TIBET

 141 11056 F2 73   7 14 2441878 35.2 N  86.5 E 26 306 33.  33
   97.6    349.5   4 51 21.0  4 37 43.6 11056 F2     73/07/14
  2441878   35.2 N   086.5 E   6.0
                33    97.6    349.5   04-51-21.0   04-37-43.
 6   IQLZWBJHBM                                          26 INDIA
  - TIBET - SZECHWAN - YUNAN 306 TIBET

 141 11056 F3 73   7 14 2441878 35.2 N  86.5 E 26 306 33.  33
   97.6    349.5   4 51 21.0  4 37 43.6 11056 F3     73/07/14
  2441878   35.2 N   086.5 E   6.0
                33    97.6    349.5   04-51-21.0   04-37-43.
 6   IQLZWBJHBM                                          26 INDIA
  - TIBET - SZECHWAN - YUNAN 306 TIBET

 141 11056 F4 73   7 14 2441878 35.2 N  86.5 E 26 306 33.  33
   97.6    349.5   4 51 21.0  4 37 43.6 11056 F4     73/07/14
  2441878   35.2 N   086.5 E   6.0
                33    97.6    349.5   04-51-21.0   04-37-43.
 6   IQLZWBJHBM                                          26 INDIA
  - TIBET - SZECHWAN - YUNAN 306 TIBET

 142 11059 BM 73   7 15 2441879 43.4 N 146.5 E 19 221 43.  43
   69.6    312.2 14  6 49.0 13 55 36.2 11059 BM     73/07/15
  2441879   43.4 N   146.5 E   5.4
                43    69.6    312.2   14-06-49.0   13-55-36.
 2   ZQBLIOVDPW                                          19 JAPAN
  - KURILES - KAMCHATKA      221 KURILE ISLANDS

 142 11059 F1 73   7 15 2441879 43.4 N 146.5 E 19 221 43.  43
   69.6    312.2 14  6 49.0 13 55 36.2 11059 F1     73/07/15
  2441879   43.4 N   146.5 E   5.4
                43    69.6    312.2   14-06-49.0   13-55-36.
 2   ZQBLIOVDPW                                          19 JAPAN
  - KURILES - KAMCHATKA      221 KURILE ISLANDS

 142 11059 F2 73   7 15 2441879 43.4 N 146.5 E 19 221 43.  43
   69.6    312.2 14  6 49.0 13 55 36.2 11059 F2     73/07/15
  2441879   43.4 N   146.5 E   5.4
                43    69.6    312.2   14-06-49.0   13-55-36.
 2   ZQBLIOVDPW                                          19 JAPAN
  - KURILES - KAMCHATKA      221 KURILE ISLANDS

 142 11059 F3 73   7 15 2441879 43.4 N 146.5 E 19 221 43.  43
   69.6    312.2 14  6 49.0 13 55 36.2 11059 F3     73/07/15
  2441879   43.4 N   146.5 E   5.4
                43    69.6    312.2   14-06-49.0   13-55-36.
 2   ZQBLIOVDPW                                          19 JAPAN
  - KURILES - KAMCHATKA      221 KURILE ISLANDS

 142 11059 F4 73   7 15 2441879 43.4 N 146.5 E 19 221 43.  43
   69.6    312.2 14  6 49.0 13 55 36.2 11059 F4     73/07/15
  2441879   43.4 N   146.5 E   5.4
                43    69.6    312.2   14-06-49.0   13-55-36.
 2   ZQBLIOVDPW                                          19 JAPAN
  - KURILES - KAMCHATKA      221 KURILE ISLANDS

 143 11061 BM 73   7 16 2441880 17.3 N-100.7 W  5  58 44.  44
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  29.7    169.3 18 12 57.0 18   6 46.9 11061 BM      73/07/16
 2441880    17.3 N    100.7 W    5.6
                44      29.7      169.3    18-12-57.0    18-06-46.
9   SBHWCLWMQR                                              5 MEXIC
0 - GUATEMALA AREA             58 NEAR COAST OF GUERRERO, MEXI
CO
143 11061 F1 73  7 16 2441880 17.3 N-100.7 W  5  58 44.  44
  29.7    169.3 18 12 57.0 18   6 46.9 11061 F1      73/07/16
 2441880    17.3 N    100.7 W    5.6
                44      29.7      169.3    18-12-57.0    18-06-46.
9   SBHWCLWMQR                                              5 MEXIC
0 - GUATEMALA AREA             58 NEAR COAST OF GUERRERO, MEXI
CO
143 11061 F2 73  7 16 2441880 17.3 N-100.7 W  5  58 44.  44
  29.7    169.3 18 12 57.0 18   6 46.9 11061 F2      73/07/16
 2441880    17.3 N    100.7 W    5.6
                44      29.7      169.3    18-12-57.0    18-06-46.
9   SBHWCLWMQR                                              5 MEXIC
0 - GUATEMALA AREA             58 NEAR COAST OF GUERRERO, MEXI
CO
143 11061 F3 73  7 16 2441880 17.3 N-100.7 W  5  58 44.  44
  29.7    169.3 18 12 57.0 18   6 46.9 11061 F3      73/07/16
 2441880    17.3 N    100.7 W    5.6
                44      29.7      169.3    18-12-57.0    18-06-46.
9   SBHWCLWMQR                                              5 MEXIC
0 - GUATEMALA AREA             58 NEAR COAST OF GUERRERO, MEXI
CO
143 11061 F4 73  7 16 2441880 17.3 N-100.7 W  5  58 44.  44
 29.7    169.3 18 12 57.0 18   6 46.9 11061 F4      73/07/16
2441880    17.3 N    100.7 W    5.6
               44      29.7      169.3    18-12-57.0    18-06-46.9
   SBHWCLWMQR                                              5 MEXICO
 - GUATEMALA AREA             58 NEAR COAST OF GUERRERO, MEXIC
O
144 11067 BM 73  7 20 2441884 80.0 N     .2 E 40 641 33.  33
 47.1      13.2 23 27 48.0 23 19 12.2 11067 BM      73/07/20
2441884    80.0 N    0  .2 E    5.2
               33      47.1      13.2    23-27-48.0    23-19-12.2
   KQERIVLIPE                                             40 ARCTIC
 ZONE                          641 NORTH OF SVALBARD

144 11067 F1 73  7 20 2441884 80.0 N     .2 E 40 641 33.  33
 47.1      13.2 23 27 48.0 23 19 12.2 11067 F1      73/07/20
2441884    80.0 N    0  .2 E    5.2
               33      47.1      13.2    23-27-48.0    23-19-12.2
   KQERIVLIPE                                             40 ARCTIC
 ZONE                          641 NORTH OF SVALBARD

144 11067 F2 73  7 20 2441884 80.0 N     .2 E 40 641 33.  33
 47.1      13.2 23 27 48.0 23 19 12.2 11067 F2      73/07/20
2441884    80.0 N    0  .2 E    5.2
               33      47.1      13.2    23-27-48.0    23-19-12.2
   KQERIVLIPE                                             40 ARCTIC
 ZONE                          641 NORTH OF SVALBARD

144 11067 F3 73  7 20 2441884 80.0 N     .2 E 40 641 33.  33
 47.1      13.2 23 27 48.0 23 19 12.2 11067 F3      73/07/20
2441884    80.0 N    0  .2 E    5.2
               33      47.1      13.2    23-27-48.0    23-19-12.2
   KQERIVLIPE                                             40 ARCTIC
 ZONE                          641 NORTH OF SVALBARD

144 11067 F4 73  7 20 2441884 80.0 N    .2 E 40 641 33.  33
 47.1     13.2 23 27 48.0 23 19 12.2 11067 F4    73/07/20
2441884   80.0 N    0  .2 E    5.2
               33     47.1      13.2   23-27-48.0   23-19-12.2
  KQERIVLIPE                                        40 ARCTIC
 ZONE                          641 NORTH OF SVALBARD

145 12303 BM 74  1 30 2442078 49.8 N  78.1 E 28 329  0.   0
 83.7   357.2  4 57  2.0  4 44 29.7 12303 BM    74/01/30
2442078   49.8 N   078.1 E    5.5
                0     83.7     357.2   04-57-02.0   04-44-29.7
  ZXHLRUJZYM                                        28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

145 12303 D1 74  1 30 2442078 49.8 N  78.1 E 28 329  0.   0
 83.7   357.2  4 57  2.0  4 44 29.7 12303 D1    74/01/30
2442078   49.8 N   078.1 E    5.5
                0     83.7     357.2   04-57-02.0   04-44-29.7
  ZXHLRUJZYM                                        28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

145 12303 D2 74  1 30 2442078 49.8 N  78.1 E 28 329  0.   0
 83.7   357.2  4 57  2.0  4 44 29.7 12303 D2    74/01/30
2442078   49.8 N   078.1 E    5.5
                0     83.7     357.2   04-57-02.0   04-44-29.7
  ZXHLRUJZYM                                        28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

145 12303 D3 74  1 30 2442078 49.8 N  78.1 E 28 329  0.   0
 83.7   357.2  4 57  2.0  4 44 29.7 12303 D3    74/01/30
2442078   49.8 N   078.1 E    5.5
                0     83.7     357.2   04-57-02.0   04-44-29.7
  ZXHLRUJZYM                                        28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

145 12303 D4 74  1 30 2442078 49.8 N  78.1 E 28 329  0.   0
 83.7   357.2  4 57  2.0  4 44 29.7 12303 D4    74/01/30
2442078   49.8 N   078.1 E    5.5
                0     83.7     357.2   04-57-02.0   04-44-29.7
  ZXHLRUJZYM                                        28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

146 12474 BM 74  4 16 2442154 50.0 N  78.8 E 28 329  0.   0
 83.5   356.8  5 53  1.0  5 40 30.0 12474 BM    74/04/16
2442154   50.0 N   078.8 E    4.8
                0     83.5     356.8   05-53-01.0   05-40-30.0
  OXJLOODVCF                                        28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

146 12474 D1 74  4 16 2442154 50.0 N  78.8 E 28 329  0.   0
 83.5   356.8  5 53  1.0  5 40 30.0 12474 D1    74/04/16
2442154   50.0 N   078.8 E    4.8
                0     83.5     356.8   05-53-01.0   05-40-30.0
  OXJLOODVCF                                        28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

146 12474 D2 74  4 16 2442154 50.0 N  78.8 E 28 329  0.   0
 83.5   356.8  5 53  1.0  5 40 30.0 12474 D2    74/04/16
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2442154    50.0 N    078.8 E    4.8
                0      83.5     356.8    05-53-01.0    05-40-30.0
   OXJLOODVCF                                            28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

146 12474 D3 74  4 16 2442154 50.0 N  78.8 E 28 329  0.    0
 83.5   356.8  5 53  1.0  5 40 30.0 12474 D3     74/04/16
2442154    50.0 N    078.8 E    4.8
                0      83.5     356.8    05-53-01.0    05-40-30.0
   OXJLOODVCF                                            28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

146 12474 D4 74  4 16 2442154 50.0 N  78.8 E 28 329  0.    0
 83.5   356.8  5 53  1.0  5 40 30.0 12474 D4     74/04/16
2442154    50.0 N    078.8 E    4.8
                0      83.5     356.8    05-53-01.0    05-40-30.0
   OXJLOODVCF                                            28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

147 12305 BM 74  5 16 2442184 49.7 N  78.2 E 28 329  0.    0
 83.8   357.1  3  2 57.0  2 50 24.0 12305 BM     74/05/16
2442184    49.7 N    078.2 E    5.3
                0      83.8     357.1    03-02-57.0    02-50-24.0
   LXKIBYVPMJ                                            28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

147 12305 D1 74  5 16 2442184 49.7 N  78.2 E 28 329  0.    0
 83.8   357.1  3  2 57.0  2 50 24.0 12305 D1     74/05/16
2442184    49.7 N    078.2 E    5.3
                0      83.8     357.1    03-02-57.0    02-50-24.0
   LXKIBYVPMJ                                            28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

147 12305 D2 74  5 16 2442184 49.7 N  78.2 E 28 329  0.    0
 83.8   357.1  3  2 57.0  2 50 24.0 12305 D2     74/05/16
2442184    49.7 N    078.2 E    5.3
                0      83.8     357.1    03-02-57.0    02-50-24.0
   LXKIBYVPMJ                                            28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

147 12305 D3 74  5 16 2442184 49.7 N  78.2 E 28 329  0.    0
 83.8   357.1  3  2 57.0  2 50 24.0 12305 D3     74/05/16
2442184    49.7 N    078.2 E    5.3
                0      83.8     357.1    03-02-57.0    02-50-24.0
   LXKIBYVPMJ                                            28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

147 12305 D4 74  5 16 2442184 49.7 N  78.2 E 28 329  0.    0
 83.8   357.1  3  2 57.0  2 50 24.0 12305 D4     74/05/16
2442184    49.7 N    078.2 E    5.3
                0      83.8     357.1    03-02-57.0    02-50-24.0
   LXKIBYVPMJ                                            28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

148 12399 BM 74  5 31 2442199 50.0 N  78.8 E 28 329  0.    0
 83.5   356.8  3 26 57.0  3 14 26.0 12399 BM     74/05/31
2442199    50.0 N    078.8 E    5.9
                0      83.5     356.8    03-26-57.0    03-14-26.0
   GRXUUMRTJL                                            28 ALMA-A
TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR
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148 12399 D1 74  5 31 2442199 50.0 N  78.8 E 28 329  0.   0
 83.5   356.8  3 26 57.0  3 14 26.0 12399 D1     74/05/31
2442199   50.0 N   078.8 E   5.9
                0     83.5    356.8   03-26-57.0   03-14-26.0
   GRXUUMRTJL                                     28 ALMA-A
TA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

148 12399 D2 74  5 31 2442199 50.0 N  78.8 E 28 329  0.   0
 83.5   356.8  3 26 57.0  3 14 26.0 12399 D2     74/05/31
2442199   50.0 N   078.8 E   5.9
                0     83.5    356.8   03-26-57.0   03-14-26.0
   GRXUUMRTJL                                     28 ALMA-A
TA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

148 12399 D3 74  5 31 2442199 50.0 N  78.8 E 28 329  0.   0
 83.5   356.8  3 26 57.0  3 14 26.0 12399 D3     74/05/31
2442199   50.0 N   078.8 E   5.9
                0     83.5    356.8   03-26-57.0   03-14-26.0
   GRXUUMRTJL                                     28 ALMA-A
TA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

148 12399 D4 74  5 31 2442199 50.0 N  78.8 E 28 329  0.   0
 83.5   356.8  3 26 57.0  3 14 26.0 12399 D4     74/05/31
2442199   50.0 N   078.8 E   5.9
                0     83.5    356.8   03-26-57.0   03-14-26.0
   GRXUUMRTJL                                     28 ALMA-A
TA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

149 12309 BM 74  6 25 2442224 49.9 N  78.1 E 28 329  0.   0
 83.6   357.2  3 56 57.0  3 44 25.2 12309 BM     74/06/25
2442224   49.9 N   078.1 E   4.7
                0     83.6    357.2   03-56-57.0   03-44-25.2
   XYOLPOSVBY                                     28 ALMA-A
TA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

149 12309 D1 74  6 25 2442224 49.9 N  78.1 E 28 329  0.   0
 83.6   357.2  3 56 57.0  3 44 25.2 12309 D1     74/06/25
2442224   49.9 N   078.1 E   4.7
                0     83.6    357.2   03-56-57.0   03-44-25.2
   XYOLPOSVBY                                     28 ALMA-A
TA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

149 12309 D2 74  6 25 2442224 49.9 N  78.1 E 28 329  0.   0
 83.6   357.2  3 56 57.0  3 44 25.2 12309 D2     74/06/25
2442224   49.9 N   078.1 E   4.7
                0     83.6    357.2   03-56-57.0   03-44-25.2
   XYOLPOSVBY                                     28 ALMA-A
TA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

149 12309 D3 74  6 25 2442224 49.9 N  78.1 E 28 329  0.   0
 83.6   357.2  3 56 57.0  3 44 25.2 12309 D3     74/06/25
2442224   49.9 N   078.1 E   4.7
                0     83.6    357.2   03-56-57.0   03-44-25.2
   XYOLPOSVBY                                     28 ALMA-A
TA TO LAKE BAIKAL           329 EASTERN KAZAKH SSR

149 12309 D4 74  6 25 2442224 49.9 N  78.1 E 28 329  0.   0
 83.6   357.2  3 56 57.0  3 44 25.2 12309 D4     74/06/25
2442224   49.9 N   078.1 E   4.7
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                         0     83.6     357.2    03-56-57.0   03-44-25.2
   XYOLPOSVBY                                                 28 ALMA-A
TA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

150 12284 BM 74  7 10 2442239 49.8 N  78.1 E 28 329  0.   0
 83.7   357.2  2 56 57.0  2 44 24.7 12284 BM      74/07/10
2442239   49.8 N   078.1 E   5.3
                         0     83.7     357.2    02-56-57.0   02-44-24.7
   OXWYESELGT                                                 28 ALMA-A
TA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

150 12284 D1 74  7 10 2442239 49.8 N  78.1 E 28 329  0.   0
 83.7   357.2  2 56 57.0  2 44 24.7 12284 D1      74/07/10
2442239   49.8 N   078.1 E   5.3
                         0     83.7     357.2    02-56-57.0   02-44-24.7
   OXWYESELGT                                                 28 ALMA-A
TA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

150 12284 D2 74  7 10 2442239 49.8 N  78.1 E 28 329  0.   0
 83.7   357.2  2 56 57.0  2 44 24.7 12284 D2      74/07/10
2442239   49.8 N   078.1 E   5.3
                         0     83.7     357.2    02-56-57.0   02-44-24.7
   OXWYESELGT                                                 28 ALMA-A
TA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

150 12284 D3 74  7 10 2442239 49.8 N  78.1 E 28 329  0.   0
 83.7   357.2  2 56 57.0  2 44 24.7 12284 D3      74/07/10
2442239   49.8 N   078.1 E   5.3
                         0     83.7     357.2    02-56-57.0   02-44-24.7
   OXWYESELGT                                                 28 ALMA-A
TA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR

150 12284 D4 74  7 10 2442239 49.8 N  78.1 E 28 329  0.   0
 83.7   357.2  2 56 57.0  2 44 24.7 12284 D4      74/07/10
2442239   49.8 N   078.1 E   5.3
                         0     83.7     357.2    02-56-57.0   02-44-24.7
   OXWYESELGT                                                 28 ALMA-A
TA TO LAKE BAIKAL               329 EASTERN KAZAKH SSR


151 12286 BM 74  7 10 2442239 37.8 N-116.0 W  3  40  0.   0
11.4   222.6 16  0  0.0 15 57 12.2 12286 BM     74/07/10   2
442239   37.8 N   116.0 W   5.7
                        0     11.4     222.6    16-00-00.0   15-57-12.2
  HVXLSTSSUJ                                                 3 CALIFOR
NIA - NEVADA REGION            40 CALIFORNIA-NEVADA BORDER REGIO
N
151 12286 D1 74  7 10 2442239 37.8 N-116.0 W  3  40  0.   0
 11.4   222.6 16  0  0.0 15 57 12.2 12286 D1      74/07/10
2442239   37.8 N   116.0 W   5.7
                         0     11.4     222.6    16-00-00.0   15-57-12.2
   HVXLSTSSUJ                                                  3 CALIFO
RNIA - NEVADA REGION            40 CALIFORNIA-NEVADA BORDER REGI
ON
151 12286 D2 74  7 10 2442239 37.8 N-116.0 W  3  40  0.   0
 11.4   222.6 16  0  0.0 15 57 12.2 12286 D2      74/07/10
2442239   37.8 N   116.0 W   5.7
                         0     11.4     222.6    16-00-00.0   15-57-12.2
   HVXLSTSSUJ                                                  3 CALIFO
RNIA - NEVADA REGION            40 CALIFORNIA-NEVADA BORDER REGI
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ON
151 12286 D3 74  7 10 2442239 37.8 N-116.0 W   3  40  0.    0
 11.4   222.6 16  0  0.0 15 57 12.2 12286 D3     74/07/10
2442239   37.8 N   116.0 W   5.7
               0    11.4    222.6   16-00-00.0   15-57-12.2
   HVXLSTSSUJ                                       3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
151 12286 D4 74  7 10 2442239 37.8 N-116.0 W   3  40  0.    0
 11.4   222.6 16  0  0.0 15 57 12.2 12286 D4     74/07/10
2442239   37.8 N   116.0 W   5.7
               0    11.4    222.6   16-00-00.0   15-57-12.2
   HVXLSTSSUJ                                       3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
152 12292 BM 74  7 22 2442251 70.7 N  53.5 E 40 648  0.    0
 61.9     7.5  1 32 21.0  1 21 57.5 12292 BM     74/07/22
2442251   70.7 N   053.5 E   4.4
               0    61.9      7.5   01-32-21.0   01-21-57.5
   IJJRWLSXMV                                      40 ARCTIC
 ZONE                      648 NOVAYA ZEMLYA

152 12292 D1 74  7 22 2442251 70.7 N  53.5 E 40 648  0.    0
 61.9     7.5  1 32 21.0  1 21 57.5 12292 D1     74/07/22
2442251   70.7 N   053.5 E   4.4
               0    61.9      7.5   01-32-21.0   01-21-57.5
   IJJRWLSXMV                                      40 ARCTIC
 ZONE                      648 NOVAYA ZEMLYA

152 12292 D2 74  7 22 2442251 70.7 N  53.5 E 40 648  0.    0
 61.9     7.5  1 32 21.0  1 21 57.5 12292 D2     74/07/22
2442251   70.7 N   053.5 E   4.4
               0    61.9      7.5   01-32-21.0   01-21-57.5
   IJJRWLSXMV                                      40 ARCTIC
 ZONE                      648 NOVAYA ZEMLYA

152 12292 D3 74  7 22 2442251 70.7 N  53.5 E 40 648  0.    0
 61.9     7.5  1 32 21.0  1 21 57.5 12292 D3     74/07/22
2442251   70.7 N   053.5 E   4.4
               0    61.9      7.5   01-32-21.0   01-21-57.5
   IJJRWLSXMV                                      40 ARCTIC
 ZONE                      648 NOVAYA ZEMLYA

152 12292 D4 74  7 22 2442251 70.7 N  53.5 E 40 648  0.    0
 61.9     7.5  1 32 21.0  1 21 57.5 12292 D4     74/07/22
2442251   70.7 N   053.5 E   4.4
               0    61.9      7.5   01-32-21.0   01-21-57.5
   IJJRWLSXMV                                      40 ARCTIC
 ZONE                      648 NOVAYA ZEMLYA

153 12403 BM 74  8 14 2442274 37.0 N-116.7 W   3  40  0.    0
 12.4   222.5 14  0  0.0 13 56 58.9 12403 BM     74/08/14
2442274   37.0 N   116.7 W   4.6
               0    12.4    222.5   14-00-00.0   13-56-58.9
   MIMWVLKXPR                                       3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
153 12403 D1 74  8 14 2442274 37.0 N-116.7 W   3  40  0.    0
 12.4   222.5 14  0  0.0 13 56 58.9 12403 D1     74/08/14
2442274   37.0 N   116.7 W   4.6
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                 0     12.4     222.5   14-00-00.0   13-56-58.9
   MIMWVLKXPR                                             3 CALIFO
RNIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGI
ON
153 12403 D2 74  8 14 2442274 37.0 N-116.7 W  3  40  0.   0
 12.4   222.5 14  0  0.0 13 56 58.9 12403 D2     74/08/14
2442274   37.0 N   116.7 W   4.6
                 0     12.4     222.5   14-00-00.0   13-56-58.9
   MIMWVLKXPR                                             3 CALIFO
RNIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGI
ON
153 12403 D3 74  8 14 2442274 37.0 N-116.7 W  3  40  0.   0
 12.4   222.5 14  0  0.0 13 56 58.9 12403 D3     74/08/14
2442274   37.0 N   116.7 W   4.6
                 0     12.4     222.5   14-00-00.0   13-56-58.9
   MIMWVLKXPR                                             3 CALIFO
RNIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGI
ON
153 12403 D4 74  8 14 2442274 37.0 N-116.7 W  3  40  0.   0
 12.4   222.5 14  0  0.0 13 56 58.9 12403 D4     74/08/14
2442274   37.0 N   116.7 W   4.6
                 0     12.4     222.5   14-00-00.0   13-56-58.9
   MIMWVLKXPR                                             3 CALIFO
RNIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGI
ON
154 12405 BM 74  8 29 2442289 73.4 N  55.1 E 40 648  0.   0
 59.5      6.1  9 59 55.0  9 49 47.8 12405 BM     74/08/29
2442289   73.4 N   055.1 E   6.4
                 0     59.5       6.1   09-59-55.0   09-49-47.8
   EXWORJLBSZ                                            40 ARCTIC
 ZONE                        648 NOVAYA ZEMLYA

154 12405 D1 74  8 29 2442289 73.4 N  55.1 E 40 648  0.   0
 59.5      6.1  9 59 55.0  9 49 47.8 12405 D1     74/08/29
2442289   73.4 N   055.1 E   6.4
                 0     59.5       6.1   09-59-55.0   09-49-47.8
   EXWORJLBSZ                                            40 ARCTIC
 ZONE                        648 NOVAYA ZEMLYA

154 12405 D2 74  8 29 2442289 73.4 N  55.1 E 40 648  0.   0
 59.5      6.1  9 59 55.0  9 49 47.8 12405 D2     74/08/29
2442289   73.4 N   055.1 E   6.4
                 0     59.5       6.1   09-59-55.0   09-49-47.8
   EXWORJLBSZ                                            40 ARCTIC
 ZONE                        648 NOVAYA ZEMLYA

154 12405 D3 74  8 29 2442289 73.4 N  55.1 E 40 648  0.   0
 59.5      6.1  9 59 55.0  9 49 47.8 12405 D3     74/08/29
2442289   73.4 N   055.1 E   6.4
                 0     59.5       6.1   09-59-55.0   09-49-47.8
   EXWORJLBSZ                                            40 ARCTIC
 ZONE                        648 NOVAYA ZEMLYA

154 12405 D4 74  8 29 2442289 73.4 N  55.1 E 40 648  0.   0
 59.5      6.1  9 59 55.0  9 49 47.8 12405 D4     74/08/29
2442289   73.4 N   055.1 E   6.4
                 0     59.5       6.1   09-59-55.0   09-49-47.8
   EXWORJLBSZ                                            40 ARCTIC
 ZONE                        648 NOVAYA ZEMLYA
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155 12427 BM 74  9 26 2442317 37.1 N-116.0 W  3  40  0.    0
 12.0   220.6 15  5  0.0 15  2  4.7 12427 BM    74/09/26
2442317   37.1 N   116.0 W   5.6
               0    12.0    220.6   15-05-00.0   15-02-04.7
   XLBIOHIPYF                                       3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
155 12427 D1 74  9 26 2442317 37.1 N-116.0 W  3  40  0.    0
 12.0   220.6 15  5  0.0 15  2  4.7 12427 D1    74/09/26
2442317   37.1 N   116.0 W   5.6
               0    12.0    220.6   15-05-00.0   15-02-04.7
   XLBIOHIPYF                                       3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
155 12427 D2 74  9 26 2442317 37.1 N-116.0 W  3  40  0.    0
 12.0   220.6 15  5  0.0 15  2  4.7 12427 D2    74/09/26
2442317   37.1 N   116.0 W   5.6
               0    12.0    220.6   15-05-00.0   15-02-04.7
   XLBIOHIPYF                                       3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
155 12427 D3 74  9 26 2442317 37.1 N-116.0 W  3  40  0.    0
 12.0   220.6 15  5  0.0 15  2  4.7 12427 D3    74/09/26
2442317   37.1 N   116.0 W   5.6
               0    12.0    220.6   15-05-00.0   15-02-04.7
   XLBIOHIPYF                                       3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
155 12427 D4 74  9 26 2442317 37.1 N-116.0 W  3  40  0.    0
 12.0   220.6 15  5  0.0 15  2  4.7 12427 D4    74/09/26
2442317   37.1 N   116.0 W   5.6
               0    12.0    220.6   15-05-00.0   15-02-04.7
   XLBIOHIPYF                                       3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
156 12429 BM 74 10 16 2442337 50.0 N  79.0 E 28 329  0.    0
 83.5   356.6  6 32 57.0  6 20 26.0 12429 BM    74/10/16
2442337   50.0 N   079.0 E   5.5
               0    83.5    356.6   06-32-57.0   06-20-26.0
   CZXMSPTLUG                                      28 ALMA-A
TA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

156 12429 D1 74 10 16 2442337 50.0 N  79.0 E 28 329  0.    0
 83.5   356.6  6 32 57.0  6 20 26.0 12429 D1    74/10/16
2442337   50.0 N   079.0 E   5.5
               0    83.5    356.6   06-32-57.0   06-20-26.0
   CZXMSPTLUG                                      28 ALMA-A
TA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

156 12429 D2 74 10 16 2442337 50.0 N  79.0 E 28 329  0.    0
 83.5   356.6  6 32 57.0  6 20 26.0 12429 D2    74/10/16
2442337   50.0 N   079.0 E   5.5
               0    83.5    356.6   06-32-57.0   06-20-26.0
   CZXMSPTLUG                                      28 ALMA-A
TA TO LAKE BAIKAL          329 EASTERN KAZAKH SSR

156 12429 D3 74 10 16 2442337 50.0 N  79.0 E 28 329  0.    0
 83.5   356.6  6 32 57.0  6 20 26.0 12429 D3    74/10/16
2442337   50.0 N   079.0 E   5.5
               0    83.5    356.6   06-32-57.0   06-20-26.0
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     CZXMSPTLUG                                                   28 ALMA-A
  TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  156 12429 D4 74 10 16 2442337 50.0 N  79.0 E 28 329  0.    0
   83.5   356.6  6 32 57.0  6 20 26.0 12429 D4     74/10/16
  2442337   50.0 N   079.0 E   5.5
                   0      83.5     356.6    06-32-57.0   06-20-26.0
     CZXMSPTLUG                                                   28 ALMA-A
  TA TO LAKE BAIKAL              329 EASTERN KAZAKH SSR

  157  1047 BM 65 10 29 2439063 51.4 N 179.2 E  1   6  0.    0
   47.1   304.6 21  8 35.7 20 59 59.7  1047 BM     65/10/29
  2439063   51.4 N   179.2 E   6.1
                   0      47.1     304.6    21-08-35.7   20-59-59.7
     LXGSZSFGKR                                                    1 ALASKA
   - ALEUTIAN ARC                  6 RAT ISLANDS, ALEUTIAN ISLANDS

  157  1047 F1 65 10 29 2439063 51.4 N 179.2 E  1   6  0.    0
   47.1   304.6 21  8 35.7 20 59 59.7  1047 F1     65/10/29
  2439063   51.4 N   179.2 E   6.1
                   0      47.1     304.6    21-08-35.7   20-59-59.7
     LXGSZSFGKR                                                    1 ALASKA
   - ALEUTIAN ARC                  6 RAT ISLANDS, ALEUTIAN ISLANDS

  157  1047 F2 65 10 29 2439063 51.4 N 179.2 E  1   6  0.    0
   47.1   304.6 21  8 35.7 20 59 59.7  1047 F2     65/10/29
  2439063   51.4 N   179.2 E   6.1
                   0      47.1     304.6    21-08-35.7   20-59-59.7
     LXGSZSFGKR                                                    1 ALASKA
   - ALEUTIAN ARC                  6 RAT ISLANDS, ALEUTIAN ISLANDS

  157  1047 F3 65 10 29 2439063 51.4 N 179.2 E  1   6  0.    0
   47.1   304.6 21  8 35.7 20 59 59.7  1047 F3     65/10/29
  2439063   51.4 N   179.2 E   6.1
                   0      47.1     304.6    21-08-35.7   20-59-59.7
     LXGSZSFGKR                                                    1 ALASKA
   - ALEUTIAN ARC                  6 RAT ISLANDS, ALEUTIAN ISLANDS

  157  1047 F4 65 10 29 2439063 51.4 N 179.2 E  1   6  0.    0
   47.1   304.6 21  8 35.7 20 59 59.7  1047 F4     65/10/29
  2439063   51.4 N   179.2 E   6.1
                   0      47.1     304.6    21-08-35.7   20-59-59.7
     LXGSZSFGKR                                                    1 ALASKA
   - ALEUTIAN ARC                  6 RAT ISLANDS, ALEUTIAN ISLANDS

  158  1069 BM 65 12  1 2439096 24.1 N   5.2 E 37 551  0.    0
   86.3    58.4 10 42 43.7 10 29 58.5  1069 BM     65/12/01
  2439096   24.1 N   0 5.2 E   5.1
                   0      86.3      58.4    10-42-43.7   10-29-58.5
     FOILYFXHFF                                                   37 AFRICA
                                 551 SOUTHERN ALGERIA

  158  1069 F1 65 12  1 2439096 24.1 N   5.2 E 37 551  0.    0
   86.3    58.4 10 42 43.7 10 29 58.5  1069 F1     65/12/01
  2439096   24.1 N   0 5.2 E   5.1
                   0      86.3      58.4    10-42-43.7   10-29-58.5
     FOILYFXHFF                                                   37 AFRICA
                                 551 SOUTHERN ALGERIA

  158  1069 F2 65 12  1 2439096 24.1 N   5.2 E 37 551  0.    0
```

```
 86.3     58.4 10 42 43.7 10 29 58.5  1069 F2     65/12/01
2439096   24.1 N   0 5.2 E   5.1
                 0     86.3      58.4   10-42-43.7   10-29-58.5
  FOILYFXHFF                                         37 AFRICA
                           551 SOUTHERN ALGERIA

158  1069 F3 65 12  1 2439096 24.1 N   5.2 E 37 551  0.   0
 86.3     58.4 10 42 43.7 10 29 58.5  1069 F3     65/12/01
2439096   24.1 N   0 5.2 E   5.1
                 0     86.3      58.4   10-42-43.7   10-29-58.5
  FOILYFXHFF                                         37 AFRICA
                           551 SOUTHERN ALGERIA

158  1069 F4 65 12  1 2439096 24.1 N   5.2 E 37 551  0.   0
 86.3     58.4 10 42 43.7 10 29 58.5  1069 F4     65/12/01
2439096   24.1 N   0 5.2 E   5.1
                 0     86.3      58.4   10-42-43.7   10-29-58.5
  FOILYFXHFF                                         37 AFRICA
                           551 SOUTHERN ALGERIA

159  3853 BM 67  9 27 2439761 37.1 N-116.0 W  3  40 33.  33
 12.0    220.6 17  2 39.9 16 59 44.6  3853 BM     67/09/27
2439761   37.1 N   116.0 W   4.6
                33     12.0     220.6   17-02-39.9   16-59-44.6
  LHYZMIXVJR                                          3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
159  3853 F1 67  9 27 2439761 37.1 N-116.0 W  3  40 33.  33
 12.0    220.6 17  2 39.9 16 59 44.6  3853 F1     67/09/27
2439761   37.1 N   116.0 W   4.6
                33     12.0     220.6   17-02-39.9   16-59-44.6
  LHYZMIXVJR                                          3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
159  3853 F2 67  9 27 2439761 37.1 N-116.0 W  3  40 33.  33
 12.0    220.6 17  2 39.9 16 59 44.6  3853 F2     67/09/27
2439761   37.1 N   116.0 W   4.6
                33     12.0     220.6   17-02-39.9   16-59-44.6
  LHYZMIXVJR                                          3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
159  3853 F3 67  9 27 2439761 37.1 N-116.0 W  3  40 33.  33
 12.0    220.6 17  2 39.9 16 59 44.6  3853 F3     67/09/27
2439761   37.1 N   116.0 W   4.6
                33     12.0     220.6   17-02-39.9   16-59-44.6
  LHYZMIXVJR                                          3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
159  3853 F4 67  9 27 2439761 37.1 N-116.0 W  3  40 33.  33
 12.0    220.6 17  2 39.9 16 59 44.6  3853 F4     67/09/27
2439761   37.1 N   116.0 W   4.6
                33     12.0     220.6   17-02-39.9   16-59-44.6
  LHYZMIXVJR                                          3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
160  2634 BM 67 12 10 2439835 36.7 N-107.2 W 34 496  0.   0
 10.0    184.5 19 32 30.5 19 30  2.3  2634 BM     67/12/10
2439835   36.7 N   107.2 W   5.1
                 0     10.0     184.5   19-32-30.5   19-30-02.3
  ILFXWDBJBI                                         34 EASTER
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N NORTH AMERICA            496 NEW MEXICO

160  2634 F1 67 12 10 2439835 36.7 N-107.2 W 34 496  0.    0
 10.0    184.5 19 32 30.5 19 30  2.3  2634 F1    67/12/10
2439835   36.7 N    107.2 W    5.1
               0    10.0     184.5    19-32-30.5    19-30-02.3
   ILFXWDBJBI                                        34 EASTER
N NORTH AMERICA            496 NEW MEXICO

160  2634 F2 67 12 10 2439835 36.7 N-107.2 W 34 496  0.    0
 10.0    184.5 19 32 30.5 19 30  2.3  2634 F2    67/12/10
2439835   36.7 N    107.2 W    5.1
        -      0    10.0     184.5    19-32-30.5    19-30-02.3
   ILFXWDBJBI                                        34 EASTER
N NORTH AMERICA            496 NEW MEXICO

160  2634 F3 67 12 10 2439835 36.7 N-107.2 W 34 496  0.    0
 10.0    184.5 19 32 30.5 19 30  2.3  2634 F3    67/12/10
2439835   36.7 N    107.2 W    5.1
               0    10.0     184.5    19-32-30.5    19-30-02.3
   ILFXWDBJBI                                        34 EASTER
N NORTH AMERICA            496 NEW MEXICO

160  2634 F4 67 12 10 2439835 36.7 N-107.2 W 34 496  0.    0
 10.0    184.5 19 32 30.5 19 30  2.3  2634 F4    67/12/10
2439835   36.7 N    107.2 W    5.1
               0    10.0     184.5    19-32-30.5    19-30-02.3
   ILFXWDBJBI                                        34 EASTER
N NORTH AMERICA            496 NEW MEXICO

161  5853 BM 68   4 26 2439973 37.3 N-116.5 W  3  40  0.    0
 12.1    222.7 15  2 56.1 14 59 59.9  5853 BM    68/04/26
2439973   37.3 N    116.5 W    6.3
               0    12.1     222.7    15-02-56.1    14-59-59.9
   LXEYSVBUUZ                                         3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
161  5853 F1 68   4 26 2439973 37.3 N-116.5 W  3  40  0.    0
 12.1    222.7 15  2 56.1 14 59 59.9  5853 F1    68/04/26
2439973   37.3 N    116.5 W    6.3
               0    12.1     222.7    15-02-56.1    14-59-59.9
   LXEYSVBUUZ                                         3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
161  5853 F2 68   4 26 2439973 37.3 N-116.5 W  3  40  0.    0
 12.1    222.7 15  2 56.1 14 59 59.9  5853 F2    68/04/26
2439973   37.3 N    116.5 W    6.3
               0    12.1     222.7    15-02-56.1    14-59-59.9
   LXEYSVBUUZ                                         3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
161  5853 F3 68   4 26 2439973 37.3 N-116.5 W  3  40  0.    0
 12.1    222.7 15  2 56.1 14 59 59.9  5853 F3    68/04/26
2439973   37.3 N    116.5 W    6.3
               0    12.1     222.7    15-02-56.1    14-59-59.9
   LXEYSVBUUZ                                         3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
161  5853 F4 68   4 26 2439973 37.3 N-116.5 W  3  40  0.    0
 12.1    222.7 15  2 56.1 14 59 59.9  5853 F4    68/04/26
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2439973   37.3 N   116.5 W   6.3
               0    12.1    222.7   15-02-56.1  14-59-59.9
   LXEYSVBUUZ                                      3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
162  6661 BM 68  9  6 2440106 37.1 N-116.0 W  3  40  0.   0
 12.0   220.6 14  2 55.2 13 59 59.9  6661 BM    68/09/06
2440106   37.1 N   116.0 W   5.6
               0    12.0    220.6   14-02-55.2  13-59-59.9
   URMIXUWVLH                                      3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
162  6661 F1 68  9  6 2440106 37.1 N-116.0 W  3  40  0.   0
 12.0   220.6 14  2 55.2 13 59 59.9  6661 F1    68/09/06
2440106   37.1 N   116.0 W   5.6
               0    12.0    220.6   14-02-55.2  13-59-59.9
   URMIXUWVLH                                      3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
162  6661 F2 68  9  6 2440106 37.1 N-116.0 W  3  40  0.   0
 12.0   220.6 14  2 55.2 13 59 59.9  6661 F2    68/09/06
2440106   37.1 N   116.0 W   5.6
               0    12.0    220.6   14-02-55.2  13-59-59.9
   URMIXUWVLH                                      3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
162  6661 F3 68  9  6 2440106 37.1 N-116.0 W  3  40  0.   0
 12.0   220.6 14  2 55.2 13 59 59.9  6661 F3    68/09/06
2440106   37.1 N   116.0 W   5.6
               0    12.0    220.6   14-02-55.2  13-59-59.9
   URMIXUWVLH                                      3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
162  6661 F4 68  9  6 2440106 37.1 N-116.0 W  3  40  0.   0
 12.0   220.6 14  2 55.2 13 59 59.9  6661 F4    68/09/06
2440106   37.1 N   116.0 W   5.6
               0    12.0    220.6   14-02-55.2  13-59-59.9
   URMIXUWVLH                                      3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
163  8348 BM 68 12 19 2440210 37.2 N-116.5 W  3  40  0.   0
 12.2   222.4 16 32 57.1 16 29 59.6  8348 BM    68/12/19
2440210   37.2 N   116.5 W   6.3
               0    12.2    222.4   16-32-57.1  16-29-59.6
   EYJKFCXUML                                      3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
163  8348 F1 68 12 19 2440210 37.2 N-116.5 W  3  40  0.   0
 12.2   222.4 16 32 57.1 16 29 59.6  8348 F1    68/12/19
2440210   37.2 N   116.5 W   6.3
               0    12.2    222.4   16-32-57.1  16-29-59.6
   EYJKFCXUML                                      3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
ON
163  8348 F2 68 12 19 2440210 37.2 N-116.5 W  3  40  0.   0
 12.2   222.4 16 32 57.1 16 29 59.6  8348 F2    68/12/19
2440210   37.2 N   116.5 W   6.3
               0    12.2    222.4   16-32-57.1  16-29-59.6
   EYJKFCXUML                                      3 CALIFO
RNIA - NEVADA REGION        40 CALIFORNIA-NEVADA BORDER REGI
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ON
163  8348 F3 68 12 19 2440210 37.2 N-116.5 W  3  40  0.   0
 12.2   222.4 16 32 57.1 16 29 59.6  8348 F3     68/12/19
2440210   37.2 N   116.5 W   6.3
                 0    12.2     222.4    16-32-57.1    16-29-59.6
   EYJKFCXUML                                          3 CALIFO
RNIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGI
ON
163  8348 F4 68 12 19 2440210 37.2 N-116.5 W  3  40  0.   0
 12.2   222.4 16 32 57.1 16 29 59.6  8348 F4     68/12/19
2440210   37.2 N   116.5 W   6.3
                 0    12.2     222.4    16-32-57.1    16-29-59.6
   EYJKFCXUML                                          3 CALIFO
RNIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGI
ON
164  7477 BM 68 12 27 2440218 41.0 N  91.4 E 27 321 33.  33
 91.2   346.8  7 43 10.9  7 30  2.9  7477 BM     68/12/27
2440218   41.0 N   091.4 E   4.6
                33    91.2     346.8    07-43-10.9    07-30-02.9
   CWWTXGHLVF                                         27 SOUTHE
RN SINKIANG TO KANSU         321 SOUTHERN SINKIANG PROV., CHIN
A
164  7477 F1 68 12 27 2440218 41.0 N  91.4 E 27 321 33.  33
 91.2   346.8  7 43 10.9  7 30  2.9  7477 F1     68/12/27
2440218   41.0 N   091.4 E   4.6
                33    91.2     346.8    07-43-10.9    07-30-02.9
   CWWTXGHLVF                                         27 SOUTHE
RN SINKIANG TO KANSU         321 SOUTHERN SINKIANG PROV., CHIN
A
164  7477 F2 68 12 27 2440218 41.0 N  91.4 E 27 321 33.  33
 91.2   346.8  7 43 10.9  7 30  2.9  7477 F2     68/12/27
2440218   41.0 N   091.4 E   4.6
                33    91.2     346.8    07-43-10.9    07-30-02.9
   CWWTXGHLVF                                         27 SOUTHE
RN SINKIANG TO KANSU         321 SOUTHERN SINKIANG PROV., CHIN
A
164  7477 F3 68 12 27 2440218 41.0 N  91.4 E 27 321 33.  33
 91.2   346.8  7 43 10.9  7 30  2.9  7477 F3     68/12/27
2440218   41.0 N   091.4 E   4.6
                33    91.2     346.8    07-43-10.9    07-30-02.9
   CWWTXGHLVF                                         27 SOUTHE
RN SINKIANG TO KANSU         321 SOUTHERN SINKIANG PROV., CHIN
A
164  7477 F4 68 12 27 2440218 41.0 N  91.4 E 27 321 33.  33
 91.2   346.8  7 43 10.9  7 30  2.9  7477 F4     68/12/27
2440218   41.0 N   091.4 E   4.6
                33    91.2     346.8    07-43-10.9    07-30-02.9
   CWWTXGHLVF                                         27 SOUTHE
RN SINKIANG TO KANSU         321 SOUTHERN SINKIANG PROV., CHIN
A
165  1150 BM 69  3 21 2440302 37.1 N-116.1 W  3  40  0.   0
 12.1   220.9 14 32 55.7 14 29 59.7  1150 BM     69/03/21
2440302   37.1 N   116.1 W   4.9
                 0    12.1     220.9    14-32-55.7    14-29-59.7
   YTCLXCRTYV                                          3 CALIFO
RNIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGI
ON
165  1150 F1 69  3 21 2440302 37.1 N-116.1 W  3  40  0.   0
 12.1   220.9 14 32 55.7 14 29 59.7  1150 F1     69/03/21
2440302   37.1 N   116.1 W   4.9
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                  0     12.1     220.9    14-32-55.7    14-29-59.7
   YTCLXCRTYV                                              3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
165  1150 F2 69  3 21 2440302 37.1 N-116.1 W  3  40  0.   0
 12.1   220.9 14 32 55.7 14 29 59.7  1150 F2     69/03/21
2440302   37.1 N    116.1 W   4.9
                  0     12.1     220.9    14-32-55.7    14-29-59.7
   YTCLXCRTYV                                              3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
165  1150 F3 69  3 21 2440302 37.1 N-116.1 W  3  40  0.   0
 12.1   220.9 14 32 55.7 14 29 59.7  1150 F3     69/03/21
2440302   37.1 N    116.1 W   4.9
                  0     12.1     220.9    14-32-55.7    14-29-59.7
   YTCLXCRTYV                                              3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
165  1150 F4 69  3 21 2440302 37.1 N-116.1 W  3  40  0.   0
 12.1   220.9 14 32 55.7 14 29 59.7  1150 F4     69/03/21
2440302   37.1 N    116.1 W   4.9
                  0     12.1     220.9    14-32-55.7    14-29-59.7
   YTCLXCRTYV                                              3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
166  1157 BM 69  4 30 2440342 37.1 N-116.0 W  3  40  0.   0
 12.0   220.6 17  2 55.1 16 59 59.8  1157 BM     69/04/30
2440342   37.1 N    116.0 W   5.3
                  0     12.0     220.6    17-02-55.1    16-59-59.8
   LBDVXMBIFS                                              3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
166  1157 F1 69  4 30 2440342 37.1 N-116.0 W  3  40  0.   0
 12.0   220.6 17  2 55.1 16 59 59.8  1157 F1     69/04/30
2440342   37.1 N    116.0 W   5.3
                  0     12.0     220.6    17-02-55.1    16-59-59.8
   LBDVXMBIFS                                              3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
166  1157 F2 69  4 30 2440342 37.1 N-116.0 W  3  40  0.   0
 12.0   220.6 17  2 55.1 16 59 59.8  1157 F2     69/04/30
2440342   37.1 N    116.0 W   5.3
                  0     12.0     220.6    17-02-55.1    16-59-59.8
   LBDVXMBIFS                                              3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
166  1157 F3 69  4 30 2440342 37.1 N-116.0 W  3  40  0.   0
 12.0   220.6 17  2 55.1 16 59 59.8  1157 F3     69/04/30
2440342   37.1 N    116.0 W   5.3
                  0     12.0     220.6    17-02-55.1    16-59-59.8
   LBDVXMBIFS                                              3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
166  1157 F4 69  4 30 2440342 37.1 N-116.0 W  3  40  0.   0
 12.0   220.6 17  2 55.1 16 59 59.8  1157 F4     69/04/30
2440342   37.1 N    116.0 W   5.3
                  0     12.0     220.6    17-02-55.1    16-59-59.8
   LBDVXMBIFS                                              3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
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167  7656 BM 69  5  7 2440349 37.3 N-116.5 W  3  40  0.   0
 12.1   222.7 13 47 56.0 13 44 59.8  7656 BM     69/05/07
2440349   37.3 N   116.5 W   5.8
                0     12.1     222.7    13-47-56.0    13-44-59.8
   PHGJLHXIID                                          3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
167  7656 F1 69  5  7 2440349 37.3 N-116.5 W  3  40  0.   0
 12.1   222.7 13 47 56.0 13 44 59.8  7656 F1     69/05/07
2440349   37.3 N   116.5 W   5.8
                0     12.1     222.7    13-47-56.0    13-44-59.8
   PHGJLHXIID                                          3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
167  7656 F2 69  5  7 2440349 37.3 N-116.5 W  3  40  0.   0
 12.1   222.7 13 47 56.0 13 44 59.8  7656 F2     69/05/07
2440349   37.3 N   116.5 W   5.8
                0     12.1     222.7    13-47-56.0    13-44-59.8
   PHGJLHXIID                                          3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
167  7656 F3 69  5  7 2440349 37.3 N-116.5 W  3  40  0.   0
 12.1   222.7 13 47 56.0 13 44 59.8  7656 F3     69/05/07
2440349   37.3 N   116.5 W   5.8
                0     12.1     222.7    13-47-56.0    13-44-59.8
   PHGJLHXIID                                          3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
167  7656 F4 69  5  7 2440349 37.3 N-116.5 W  3  40  0.   0
 12.1   222.7 13 47 56.0 13 44 59.8  7656 F4     69/05/07
2440349   37.3 N   116.5 W   5.8
                0     12.1     222.7    13-47-56.0    13-44-59.8
   PHGJLHXIID                                          3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
168  7659 BM 69  5 27 2440369 37.1 N-116.0 W  3  40  0.   0
 12.0   220.6 14 17 55.1 14 14 59.8  7659 BM     69/05/27
2440369   37.1 N   116.0 W   5.0
                0     12.0     220.6    14-17-55.1    14-14-59.8
   XDZZLIDVHB                                          3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGI
ON
168  7659 F1 69  5 27 2440369 37.1 N-116.0 W  3  40  0.   0
 12.0   220.6 14 17 55.1 14 14 59.8  7659 F1     69/05/27
2440369   37.1 N   116.0 W   5.0
                0     12.0     220.6    14-17-55.1    14-14-59.8
   XDZZLIDVHB                                          3 CALIFO
RNIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER RRGI
ON
168  7659 F2 69  5 27 2440369 37.1 N-116.0 W  3  40  0.   0
12.0   220.6 14 17 55.1 14 14 59.8  7659 F2     69/05/27   2
440369   37.1 N   116.0 W   5.0
               0     12.0     220.6    14-17-55.1    14-14-59.8
  XDZZLIDVHB                                          3 CALIFOR
NIA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGIO
N
168  7659 F3 69  5 27 2440369 37.1 N-116.0 W  3  40  0.   0
12.0   220.6 14 17 55.1 14 14 59.8  7659 F3     69/05/27   2
440369   37.1 N   116.0 W   5.0
               0     12.0     220.6    14-17-55.1    14-14-59.8
  XDZZLIDVHB                                              3 CALIFOR
NIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGIO
N
168  7659 F4 69  5 27 2440369 37.1 N-116.0 W  3  40  0.   0
12.0   220.6 14 17 55.1 14 14 59.8  7659 F4    69/05/27   2
440369   37.1 N   116.0 W   5.0
               0    12.0    220.6   14-17-55.1   14-14-59.8
  XDZZLIDVHB                                              3 CALIFOR
NIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGIO
N
169  1167 BM 69  7 16 2440419 37.1 N-116.1 W  3  40  0.   0
12.1   220.9 14 57 55.7 14 54 59.7  1167 BM    69/07/16   2
440419   37.1 N   116.1 W   5.6
               0    12.1    220.9   14-57-55.7   14-54-59.7
  LTRDJSCWXW                                              3 CALIFOR
NIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGIO
N
169  1167 F1 69  7 16 2440419 37.1 N-116.1 W  3  40  0.   0
12.1   220.9 14 57 55.7 14 54 59.7  1167 F1    69/07/16   2
440419   37.1 N   116.1 W   5.6
               0    12.1    220.9   14-57-55.7   14-54-59.7
  LTRDJSCWXW                                              3 CALIFOR
NIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGIO
N
169  1167 F2 69  7 16 2440419 37.1 N-116.1 W  3  40  0.   0
12.1   220.9 14 57 55.7 14 54 59.7  1167 F2    69/07/16   2
440419   37.1 N   116.1 W   5.6
               0    12.1    220.9   14-57-55.7   14-54-59.7
  LTRDJSCWXW                                              3 CALIFOR
NIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGIO
N
169  1167 F3 69  7 16 2440419 37.1 N-116.1 W  3  40  0.   0
12.1   220.9 14 57 55.7 14 54 59.7  1167 F3    69/07/16   2
440419   37.1 N   116.1 W   5.6
               0    12.1    220.9   14-57-55.7   14-54-59.7
  LTRDJSCWXW                                              3 CALIFOR
NIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGIO
N
169  1167 F4 69  7 16 2440419 37.1 N-116.1 W  3  40  0.   0
12.1   220.9 14 57 55.7 14 54 59.7  1167 F4    69/07/16   2
440419   37.1 N   116.1 W   5.6
               0    12.1    220.9   14-57-55.7   14-54-59.7
  LTRDJSCWXW                                              3 CALIFOR
NIA - NEVADA REGION          40 CALIFORNIA-NEVADA BORDER REGIO
N
170  6917 BM 71  5  7 2441079 33.0 N 127.0 E 20 231 33.  33
87.3   317.7  0 52 30.4  0 39 41.0  6917 BM    71/05/07   2
441079   33.0 N   127.0 E   4.5
              33    87.3    317.7   00-52-30.4   00-39-41.0
  VJERTOGQZL                                            20 SOUTHWE
STERN JAPAN AND RYUKYU IS 231 SOUTH KOREA

170  6917 F1 71  5  7 2441079 33.0 N 127.0 E 20 231 33.  33    8
7.3   317.7  0 52 30.4  0 39 41.0  6917 F1    71/05/07   24
41079   33.0 N   127.0 E   4.5
             33    87.3    317.7   00-52-30.4   00-39-41.0
 VJERTOGQZL                                            20 SOUTHWES
TERN JAPAN AND RYUKYU IS 231 SOUTH KOREA

170  6917 F2 71  5  7 2441079 33.0 N 127.0 E 20 231 33.  33    8
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7.3    317.7   0 52 30.4   0 39 41.0   6917 F2      71/05/07    24
41079    33.0 N    127.0 E    4.5
             33     87.3     317.7    00-52-30.4    00-39-41.0
 VJERTOGQZL                                            20 SOUTHWES
TERN JAPAN AND RYUKYU IS 231 SOUTH KOREA

170  6917 F3 71  5  7 2441079 33.0 N 127.0 E 20 231 33.  33    8
7.3    317.7   0 52 30.4   0 39 41.0   6917 F3      71/05/07    24
41079    33.0 N    127.0 E    4.5
             33     87.3     317.7    00-52-30.4    00-39-41.0
 VJERTOGQZL                                            20 SOUTHWES
TERN JAPAN AND RYUKYU IS 231 SOUTH KOREA

170  6917 F4 71  5  7 2441079 33.0 N 127.0 E 20 231 33.  33    8
7.3    317.7   0 52 30.4   0 39 41.0   6917 F4      71/05/07    24
41079    33.0 N    127.0 E    4.5
             33     87.3     317.7    00-52-30.4    00-39-41.0
 VJERTOGQZL                                            20 SOUTHWES
TERN JAPAN AND RYUKYU IS 231 SOUTH KOREA

171  8814 BM 71  6  5 2441108 37.9 N 113.7 E 41 658 33.  33    8
8.4    329.6 10 34 21.0 10 21 25.8  8814 BM      71/06/05    24
41108    37.9 N    113.7 E    4.7
             33     88.4     329.6    10-34-21.0    10-21-25.8
 QWEKILMHUS                                            41 EASTERN
ASIA                   658 NORTHEASTERN CHINA

171  8814 F1 71  6  5 2441108 37.9 N 113.7 E 41 658 33.  33    8
8.4    329.6 10 34 21.0 10 21 25.8  8814 F1      71/06/05    24
41108    37.9 N    113.7 E    4.7
             33     88.4     329.6    10-34-21.0    10-21-25.8
 QWEKILMHUS                                            41 EASTERN
ASIA                   658 NORTHEASTERN CHINA

171  8814 F2 71  6  5 2441108 37.9 N 113.7 E 41 658 33.  33    8
8.4    329.6 10 34 21.0 10 21 25.8  8814 F2      71/06/05    24
41108    37.9 N    113.7 E    4.7
             33     88.4     329.6    10-34-21.0    10-21-25.8
 QWEKILMHUS                                            41 EASTERN
ASIA                   658 NORTHEASTERN CHINA

171  8814 F3 71  6  5 2441108 37.9 N 113.7 E 41 658 33.  33    8
8.4    329.6 10 34 21.0 10 21 25.8  8814 F3      71/06/05    24
41108    37.9 N    113.7 E    4.7
             33     88.4     329.6    10-34-21.0    10-21-25.8
 QWEKILMHUS                                            41 EASTERN
ASIA                   658 NORTHEASTERN CHINA

171  8814 F4 71  6  5 2441108 37.9 N 113.7 E 41 658 33.  33    8
8.4    329.6 10 34 21.0 10 21 25.8  8814 F4      71/06/05    24
41108    37.9 N    113.7 E    4.7
             33     88.4     329.6    10-34-21.0    10-21-25.8
 QWEKILMHUS                                            41 EASTERN
ASIA                   658 NORTHEASTERN CHINA

172  8816 BM 71  6  6 2441109 53.8 N-171.9 W  1   9272. 272    4
1.2    305.0   4  7 41.8   3 59 53.9  8816 BM      71/06/06    24
41109    53.8 N    171.9 W    5.2
            272     41.2     305.0    04-07-41.8    03-59-53.9
 MGQWWRDCLO                                             1 ALASKA -
 ALEUTIAN ARC                9 FOX ISLANDS, ALEUTIAN ISLANDS

172  8816 F1 71  6  6 2441109 53.8 N-171.9 W  1   9272. 272   4
1.2   305.0  4  7 41.8  3 59 53.9  8816 F1    71/06/06   24
41109   53.8 N   171.9 W   5.2
          272    41.2    305.0   04-07-41.8   03-59-53.9
 MGQWWRDCLO                                    1 ALASKA -
 ALEUTIAN ARC                9 FOX ISLANDS, ALEUTIAN ISLANDS

172  8816 F2 71  6  6 2441109 53.8 N-171.9 W  1   9272. 272   4
1.2   305.0  4  7 41.8  3 59 53.9  8816 F2    71/06/06   24
41109   53.8 N   171.9 W   5.2
          272    41.2    305.0   04-07-41.8   03-59-53.9
 MGQWWRDCLO                                    1 ALASKA -
 ALEUTIAN ARC                9 FOX ISLANDS, ALEUTIAN ISLANDS

172  8816 F3 71  6  6 2441109 53.8 N-171.9 W  1   9272. 272   4
1.2   305.0  4  7 41.8  3 59 53.9  8816 F3    71/06/06   24
41109   53.8 N   171.9 W   5.2
          272    41.2    305.0   04-07-41.8   03-59-53.9
 MGQWWRDCLO                                    1 ALASKA -
 ALEUTIAN ARC                9 FOX ISLANDS, ALEUTIAN ISLANDS

172  8816 F4 71  6  6 2441109 53.8 N-171.9 W  1   9272. 272   4
1.2   305.0  4  7 41.8  3 59 53.9  8816 F4    71/06/06   24
41109   53.8 N   171.9 W   5.2
          272    41.2    305.0   04-07-41.8   03-59-53.9
 MGQWWRDCLO                                    1 ALASKA -
 ALEUTIAN ARC                9 FOX ISLANDS, ALEUTIAN ISLANDS

173  8823 BM 71  6 10 2441113 41.1 N 138.4 E 19 223226. 226   7
5.4   315.2 20 11 12.8 19 59 25.7  8823 BM    71/06/10   24
41113   41.1 N   138.4 E   5.7
          226    75.4    315.2   20-11-12.8   19-59-25.7
 UQRKDEIPLC                                   19 JAPAN -
KURILES - KAMCHATKA      223 EASTERN SEA OF JAPAN

173  8823 F1 71  6 10 2441113 41.1 N 138.4 E 19 223226. 226   7
5.4   315.2 20 11 12.8 19 59 25.7  8823 F1    71/06/10   24
41113   41.1 N   138.4 E   5.7
          226    75.4    315.2   20-11-12.8   19-59-25.7
 UQRKDEIPLC                                   19 JAPAN -
KURILES - KAMCHATKA      223 EASTERN SEA OF JAPAN

173  8823 F2 71  6 10 2441113 41.1 N 138.4 E 19 223226. 226   7
5.4   315.2 20 11 12.8 19 59 25.7  8823 F2    71/06/10   24
41113   41.1 N   138.4 E   5.7
          226    75.4    315.2   20-11-12.8   19-59-25.7
 UQRKDEIPLC                                   19 JAPAN -
KURILES - KAMCHATKA      223 EASTERN SEA OF JAPAN

173  8823 F3 71  6 10 2441113 41.1 N 138.4 E 19 223226. 226   7
5.4   315.2 20 11 12.8 19 59 25.7  8823 F3    71/06/10   24
41113   41.1 N   138.4 E   5.7
          226    75.4    315.2   20-11-12.8   19-59-25.7
 UQRKDEIPLC                                   19 JAPAN -
KURILES - KAMCHATKA      223 EASTERN SEA OF JAPAN

173  8823 F4 71  6 10 2441113 41.1 N 138.4 E 19 223226. 226   7
5.4   315.2 20 11 12.8 19 59 25.7  8823 F4    71/06/10   24
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41113    41.1 N    138.4 E    5.7
              226      75.4      315.2    20-11-12.8     19-59-25.7
 UQRKDEIPLC                                               19 JAPAN -
KURILES - KAMCHATKA         223 EASTERN SEA OF JAPAN

174  8824 BM 71  6 11 2441114 18.0 N -69.8 W  7  88 57.  57    4
1.5   121.4 13  3 47.1 12 55 57.0  8824 BM     71/06/11    24
41114    18.0 N    069.8 W    6.1
              57       41.5      121.4    13-03-47.1     12-55-57.0
 FLQKIEPMEZ                                                7 CARIBBEA
N LOOP                          88 DOMINICAN REPUBLIC REGION

174  8824 F1 71  6 11 2441114 18.0 N -69.8 W  7  88 57.  57    4
1.5   121.4 13  3 47.1 12 55 57.0  8824 F1     71/06/11    24
41114    18.0 N    069.8 W    6.1
              57       41.5      121.4    13-03-47.1     12-55-57.0
 FLQKIEPMEZ                                                7 CARIBBEA
N LOOP                          88 DOMINICAN REPUBLIC REGION

174  8824 F2 71  6 11 2441114 18.0 N -69.8 W  7  88 57.  57    4
1.5   121.4 13  3 47.1 12 55 57.0  8824 F2     71/06/11    24
41114    18.0 N    069.8 W    6.1
              57       41.5      121.4    13-03-47.1     12-55-57.0
 FLQKIEPMEZ                                                7 CARIBBEA
N LOOP                          88 DOMINICAN REPUBLIC REGION

174  8824 F3 71  6 11 2441114 18.0 N -69.8 W  7  88 57.  57    4
1.5   121.4 13  3 47.1 12 55 57.0  8824 F3     71/06/11    24
41114    18.0 N    069.8 W    6.1
              57       41.5      121.4    13-03-47.1     12-55-57.0
 FLQKIEPMEZ                                                7 CARIBBEA
N LOOP                          88 DOMINICAN REPUBLIC REGION

174  8824 F4 71  6 11 2441114 18.0 N -69.8 W  7  88 57.  57    4
1.5   121.4 13  3 47.1 12 55 57.0  8824 F4     71/06/11    24
41114    18.0 N    069.8 W    6.1
              57       41.5      121.4    13-03-47.1     12-55-57.0
 FLQKIEPMEZ                                                7 CARIBBEA
N LOOP                          88 DOMINICAN REPUBLIC REGION

175  9216 BM 71  6 14 2441117 56.2 N 123.6 E 41 656 33.  33    6
9.2   332.9 14  0  1.9 13 48 51.4  9216 BM     71/06/14    24
41117    56.2 N    123.6 E    5.6
              33       69.2      332.9    14-00-01.9     13-48-51.4
 MTWUDQLICW                                               41 EASTERN
ASIA                           656 EASTERN RUSSIA

175  9216 F1 71  6 14 2441117 56.2 N 123.6 E 41 656 33.  33    6
9.2   332.9 14  0  1.9 13 48 51.4  9216 F1     71/06/14    24
41117    56.2 N    123.6 E    5.6
              33       69.2      332.9    14-00-01.9     13-48-51.4
 MTWUDQLICW                                               41 EASTERN
ASIA                           656 EASTERN RUSSIA

175  9216 F2 71  6 14 2441117 56.2 N 123.6 E 41 656 33.  33    6
9.2   332.9 14  0  1.9 13 48 51.4  9216 F2     71/06/14    24
41117    56.2 N    123.6 E    5.6
              33       69.2      332.9    14-00-01.9     13-48-51.4
 MTWUDQLICW                                               41 EASTERN
ASIA                           656 EASTERN RUSSIA
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175  9216 F3 71  6 14 2441117 56.2 N 123.6 E 41 656 33.  33   6
9.2   332.9 14  0  1.9 13 48 51.4  9216 F3    71/06/14   24
41117   56.2 N   123.6 E   5.6
            33     69.2     332.9    14-00-01.9    13-48-51.4
 MTWUDQLICW                                     41 EASTERN
ASIA                         656 EASTERN RUSSIA

175  9216 F4 71  6 14 2441117 56.2 N 123.6 E 41 656 33.  33   6
9.2   332.9 14  0  1.9 13 48 51.4  9216 F4    71/06/14   24
41117   56.2 N   123.6 E   5.6
            33     69.2     332.9    14-00-01.9    13-48-51.4
 MTWUDQLICW                                     41 EASTERN
ASIA                         656 EASTERN RUSSIA

176
176  8827 BM 71  6 15 2441118 41.4 N  79.4 E 27 320 33.  33   92
.1   355.8  7 52 44.3  7 39 32.0  8827 BM    71/06/15   244
1118   41.4 N   079.4 E   5.6
            33     92.1      355.8    07-52-44.3    07-39-32.0
QWWRJLOJRC                                     27 SOUTHERN
SINKIANG TO KANSU        320 KIRGIZ-SINKIANG BORDER REGION

176  8827 F1 71  6 15 2441118 41.4 N  79.4 E 27 320 33.  33   9
2.1   355.8  7 52 44.3  7 39 32.0  8827 F1    71/06/15   24
41118   41.4 N   079.4 E   5.6
            33     92.1     355.8    07-52-44.3    07-39-32.0
 QWWRJLOJRC                                     27 SOUTHERN
 SINKIANG TO KANSU       320 KIRGIZ-SINKIANG BORDER REGION

176  8827 F2 71  6 15 2441118 41.4 N  79.4 E 27 320 33.  33   9
2.1   355.8  7 52 44.3  7 39 32.0  8827 F2    71/06/15   24
41118   41.4 N   079.4 E   5.6
            33     92.1     355.8    07-52-44.3    07-39-32.0
 QWWRJLOJRC                                     27 SOUTHERN
 SINKIANG TO KANSU       320 KIRGIZ-SINKIANG BORDER REGION

176  8827 F3 71  6 15 2441118 41.4 N  79.4 E 27 320 33.  33   9
2.1   355.8  7 52 44.3  7 39 32.0  8827 F3    71/06/15   24
41118   41.4 N   079.4 E   5.6
            33     92.1     355.8    07-52-44.3    07-39-32.0
 QWWRJLOJRC                                     27 SOUTHERN
 SINKIANG TO KANSU       320 KIRGIZ-SINKIANG BORDER REGION

176  8827 F4 71  6 15 2441118 41.4 N  79.4 E 27 320 33.  33   9
2.1   355.8  7 52 44.3  7 39 32.0  8827 F4    71/06/15   24
41118   41.4 N   079.4 E   5.6
            33     92.1     355.8    07-52-44.3    07-39-32.0
 QWWRJLOJRC                                     27 SOUTHERN
 SINKIANG TO KANSU       320 KIRGIZ-SINKIANG BORDER REGION

177  8828 BM 71  6 15 2441118 41.5 N  79.3 E 27 320 333  33   9
2.0   355.9 22 28 57.1 22 15 45.3  8828 BM    71/06/15   24
41118   41.5 N   079.3 E   5.1
            33     92.0     355.9    22-28-57.1    22-15-4553
 LTQVWGBEJO                                     27 SOUTHERN
 SINKIANG TO KANSU       320 KIRGIZ-SINKIANG BORDER REGION

177  8828 F1 71  6 15 2441118 41.5 N  79.3 E 27 320 33.  33   9
2.0   355.9 22 28 57.1 22 15 45.3  8828 F1    71/06/15   24
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 41118    41.5 N    079.3 E    5.1
                33      92.0     355.9    22-28-57.1    22-15-45.3
  LTQVWGBEJO                                           27 SOUTHERN
  SINKIANG TO KANSU        320 KIRGIZ-SINKIANG BORDER REGION

177   8828 F2 71   6 15 2441118 41.5 N   79.3 E 27 320 33.   33      9
2.0    355.9 22 28 57.1 22 15 45.3  8828 F2     71/06/15   24
41118    41.5 N    079.3 E    5.1
                33      92.0     355.9    22-28-57.1    22-15-45.3
  LTQVWGBEJO                                           27 SOUTHERN
  SINKIANG TO KANSU        320 KIRGIZ-SINKIANG BORDER REGION

177   8828 F3 71   6 15 2441118 41.5 N   79.3 E 27 320 33.   33      9
2.0    355.9 22 28 57.1 22 15 45.3  8828 F3     71/06/15   24
41118    41.5 N    079.3 E    5.1
                33      92.0     355.9    22-28-57.1    22-15-45.3
  LTQVWGBEJO                                           27 SOUTHERN
  SINKIANG TO KANSU        320 KIRGIZ-SINKIANG BORDER REGION

177   8828 F4 71   6 15 2441118 41.5 N   79.3 E 27 320 33.   33      9
2.0    355.9 22 28 57.1 22 15 45.3  8828 F4     71/06/15   24
41118    41.5 N    079.3 E    5.1
                33      92.0     355.9    22-28-57.1    22-15-45.3
  LTQVWGBEJO                                           27 SOUTHERN
  SINKIANG TO KANSU        320 KIRGIZ-SINKIANG BORDER REGION

178   8831 BM 71   6 16 2441119 41.4 N   79.3 E 27 320239. 239     9
2.1    355.9 11 22  6.7 11  8 54.4  8831 BM     71/06/16   24
41119    41.4 N    079.3 E    4.3
               239      92.1     355.9    11-22-06.7    11-08-54.4
  LSVEGQHTKM                                           27 SOUTHERN
  SINKIANG TO KANSU        320 KIRGIZ-SINKIANG BORDER REGION

178   8831 F1 71   6 16 2441119 41.4 N   79.3 E 27 320239. 239     9
2.1    355.9 11 22  6.7 11  8 54.4  8831 F1     71/06/16   24
41119    41.4 N    079.3 E    4.3
               239      92.1     355.9    11-22-06.7    11-08-54.4
  LSVEGQHTKM                                           27 SOUTHERN
  SINKIANG TO KANSU        320 KIRGIZ-SINKIANG BORDER REGION

178   8831 F2 71   6 16 2441119 41.4 N   79.3 E 27 320239. 239     9
2.1    355.9 11 22  6.7 11  8 54.4  8831 F2     71/06/16   24
41119    41.4 N    079.3 E    4.3
               239      92.1     355.9    11-22-06.7    11-08-54.4
  LSVEGQHTKM                                           27 SOUTHERN
  SINKIANG TO KANSU        320 KIRGIZ-SINKIANG BORDER REGION

178   8831 F3 71   6 16 2441119 41.4 N   79.3 E 27 320239. 239     9
2.1    355.9 11 22  6.7 11  8 54.4  8831 F3     71/06/16   24
41119    41.4 N    079.3 E    4.3
               239      92.1     355.9    11-22-06.7    11-08-54.4
  LSVEGQHTKM                                           27 SOUTHERN
  SINKIANG TO KANSU        320 KIRGIZ-SINKIANG BORDER REGION

178   8831 F4 71   6 16 2441119 41.4 N   79.3 E 27 320239. 239     9
2.1    355.9 11 22  6.7 11  8 54.4  8831 F4     71/06/16   24
41119    41.4 N    079.3 E    4.3
               239      92.1     355.9    11-22-06.7    11-08-54.4
  LSVEGQHTKM                                           27 SOUTHERN
  SINKIANG TO KANSU        320 KIRGIZ-SINKIANG BORDER REGION
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179  8936 BM 71  6 22 2441125 -9.8 S 160.2 E 15 193 20.  20     9
9.6   265.8 11 36 48.8 11 23  2.4  8936 BM     71/06/22   24
41125     9.8 S    160.2 E    5.4
             20      99.6     265.8    11-36-48.8    11-23-02.4
 LFKGZQKRSY                                           15 BISMARCK
 AND SOLOMON ISLANDS      193 SOLOMON ISLANDS

179  8936 F1 71  6 22 2441125 -9.8 S 160.2 E 15 193 20.  20     9
9.6   265.8 11 36 48.8 11 23  2.4  8936 F1     71/06/22   24
41125     9.8 S    160.2 E    5.4
             20      99.6     265.8    11-36-48.8    11-23-02.4
 LFKGZQKRSY                                           15 BISMARCK
 AND SOLOMON ISLANDS      193 SOLOMON ISLANDS

179  8936 F2 71  6 22 2441125 -9.8 S 160.2 E 15 193 20.  20     9
9.6   265.8 11 36 48.8 11 23  2.4  8936 F2     71/06/22   24
41125     9.8 S    160.2 E    5.4
             20      99.6     265.8    11-36-48.8    11-23-02.4
 LFKGZQKRSY                                           15 BISMARCK
 AND SOLOMON ISLANDS      193 SOLOMON ISLANDS

179  8936 F3 71  6 22 2441125 -9.8 S 160.2 E 15 193 20.  20     9
9.6   265.8 11 36 48.8 11 23  2.4  8936 F3     71/06/22   24
41125     9.8 S    160.2 E    5.4
             20      99.6     265.8    11-36-48.8    11-23-02.4
 LFKGZQKRSY                                           15 BISMARCK
 AND SOLOMON ISLANDS      193 SOLOMON ISLANDS

179  8936 F4 71  6 22 2441125 -9.8 S 160.2 E 15 193 20.  20     9
9.6   265.8 11 36 48.8 11 23  2.4  8936 F4     71/06/22   24
41125     9.8 S    160.2 E    5.4
             20      99.6     265.8    11-36-48.8    11-23-02.4
 LFKGZQKRSY                                           15 BISMARCK
 AND SOLOMON ISLANDS      193 SOLOMON ISLANDS

180  8935 BM 71  6 22 2441125 36.2 N  69.8 E 53 718166. 166     9
7.3      3.2  6 43 16.0  6 29 39.7  8935 BM     71/06/22   24
41125   36.2 N    069.8 E    4.9
            166      97.3        3.2   06-43-16.0    06-29-39.7
 TEIVCYVLQD                                          53 G REG =
718 AND D GT 70           718 HINDU KUSH REGION

180  8935 F1 71  6 22 2441125 36.2 N  69.8 E 53 718166. 166     9
7.3      3.2  6 43 16.0  6 29 39.7  8935 F1     71/06/22   24
41125   36.2 N    069.8 E    4.9
            166      97.3        3.2   06-43-16.0    06-29-39.7
 TEIVCYVLQD                                          53 G REG =
718 AND D GT 70           718 HINDU KUSH REGION

180  8935 F2 71  6 22 2441125 36.2 N  69.8 E 53 718166. 166     9
7.3      3.2  6 43 16.0  6 29 39.7  8935 F2     71/06/22   24
41125   36.2 N    069.8 E    4.9
            166      97.3        3.2   06-43-16.0    06-29-39.7
 TEIVCYVLQD                                          53 G REG =
718 AND D GT 70           718 HINDU KUSH REGION

180  8935 F3 71  6 22 2441125 36.2 N  69.8 E 53 718166. 166     9
7.3      3.2  6 43 16.0  6 29 39.7  8935 F3     71/06/22   24
41125   36.2 N    069.8 E    4.9
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              166     97.3        3.2   06-43-16.0   06-29-39.7
 TEIVCYVLQD                                            53 G RFG =
718 AND D GT 70            718 HINDU KUSH REGION

181  8935 F4 71  6 22 2441125 36.2 N  69.8 E 53 718166. 166    9
7.3      3.2  6 43 16.0  6 29 39.7  8935 F4     71/06/22    24
41125    36.2 N    069.8 E    4.9
              166     97.3        3.2   06-43-16.0   06-29-39.7
 TEIVCYVLQD                                            53 G REG =
718 AND D GT 70            718 HINDU KUSH REGION

181  8938 BM 71  6 24 2441127 37.2 N-116.1 W  3  40  5.   5    1
2.0   221.2 14  7  2.5 14  4  7.5  8938 BM     71/06/24    24
41127    37.2 N   116.1 W    0.0
                5     12.0    221.2   14-07-02.5   14-04-07.5
 XJSUWTYJLH                                             3 CALIFORN
IA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGION

181  8938 F1 71  6 24 2441127 37.2 N-116.1 W .3  40  5.   5    1
2.0   221.2 14  7  2.5 14  4  7.5  8938 F1     71/06/24    24
41127    37.2 N   116.1 W    0.0
                5     12.0    221.2   14-07-02.5   14-04-07.5
 XJSUWTYJLH                                             3 CALIFORN
IA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER RRGION

181  8938 F2 71  6 24 2441127 37.2 N-116.1 W  3  40  5.   5    1
2.0   221.2 14  7  2.5 14  4  7.5  8938 F2     71/06/24    24
41127    37.2 N   116.1 W    0.0
                5     12.0    221.2   14-07-02.5   14-04-07.5
 XJSUWTYJLH                                             3 CALIFORN
IA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGION

181  8938 F3 71  6 24 2441127 37.2 N-116.1 W  3  40  5.   5    1
2.0   221.2 14  7  2.5 14  4  7.5  8938 F3     71/06/24    24
41127    37.2 N   116.1 W    0.0
                5     12.0    221.2   14-07-02.5   14-04-07.5
 XJSUWTYJLH                                             3 CALIFORN
IA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGION

181  8938 F4 71  6 24 2441127 37.2 N-116.1 W  3  40  5.   5    1
2.0   221.2 14  7  2.5 14  4  7.5  8938 F4     71/06/24    24
41127    37.2 N   116.1 W    0.0
                5     12.0    221.2   14-07-02.5   14-04-07.5
 XJSUWTYJLH                                             3 CALIFORN
IA - NEVADA REGION         40 CALIFORNIA-NEVADA BORDER REGION

182  8940 BM 71  6 26 2441129 19.0 N -68.0 W  7  89 33.  33    4
1.8   118.5 15 55 20.0 15 47 27.2  8940 BM     71/06/26    24
41129    19.0 N   068.0 W    5.3
               33     41.8    118.5   15-55-20.0   15-47-27.2
 DQBFLBWIZD                                             7 CARIBBEA
N LOOP                     89 MONA PASSAGE

182  8940 F1 71  6 26 2441129 19.0 N -68.0 W  7  89 33.  33    4
1.8   118.5 15 55 20.0 15 47 27.2  8940 F1     71/06/26    24
41129    19.0 N   068.0 W    5.3
               33     41.8    118.5   15-55-20.0   15-47-27.2
 DQBFLBWIZD                                             7 CARIBBEA
N LOOP                     89 MONA PASSAGE
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182  8940 F2 71  6 26 2441129 19.0 N -68.0 W  7  89 33.  33     4
1.8   118.5 15 55 20.0 15 47 27.2  8940 F2    71/06/26   24
41129   19.0 N   068.0 W   5.3
             33     41.8     118.5   15-55-20.0   15-47-27.2
 DQBFLBWIZD                                        7 CARIBBEA
N LOOP                          89 MONA PASSAGE

182  8940 F3 71  6 26 2441129 19.0 N -68.0 W  7  89 33.  33     4
1.8   118.5 15 55 20.0 15 47 27.2  8940 F3    71/06/26   24
41129   19.0 N   068.0 W   5.3
             33     41.8     118.5   15-55-20.0   15-47-27.2
 DQBFLBWIZD                                        7 CARIBBEA
N LOOP                          89 MONA PASSAGE

182  8940 F4 71  6 26 2441129 19.0 N -68.0 W  7  89 33.  33     4
1.8   118.5 15 55 20.0 15 47 27.2  8940 F4    71/06/26   24
41129   19.0 N   068.0 W   5.3
             33     41.8     118.5   15-55-20.0   15-47-27.2
 DQBFLBWIZD                                        7 CARIBBEA
N LOOP                          89 MONA PASSAGE

183  8942 BM 71  6 26 2441129 36.3 N  71.4 E 48 717127. 127     9
7.3       1.9 22 36 49.1 22 23 13.0  8942 BM    71/06/26   24
41129   36.3 N   071.4 E   5.0
           127     97.3       1.9   22-36-49.1   22-23-13.0
 LKOCQUYMSO                                       48 HINDU KU
SH AND PAMIR                 717 AFGHANISTAN-USSR BORDER REGION

183  8942 F1 71  6 26 2441129 36.3 N  71.4 E 48 717127. 127     9
7.3       1.9 22 36 49.1 22 23 13.0  8942 F1    71/06/26   24
41129   36.3 N   071.4 E   5.0
           127     97.3       1.9   22-36-49.1   22-23-13.0
 LKOCQUYMSO                                       48 HINDU KU
SH AND PAMIR                 717 AFGHANISTAN-USSR BORDER REGION

183  8942 F2 71  6 26 2441129 36.3 N  71.4 E 48 717127. 127     9
7.3       1.9 22 36 49.1 22 23 13.0  8942 F2    71/06/26   24
41129   36.3 N   071.4 E   5.0
           127     97.3       1.9   22-36-49.1   22-23-13.0
 LKOCQUYMSO                                       48 HINDU KU
SH AND PAMIR                 717 AFGHANISTAN-USSR BORDER REGION

183  8942 F3 71  6 26 2441129 36.3 N  71.4 E 48 717127. 127     9
7.3       1.9 22 36 49.1 22 23 13.0  8942 F3    71/06/26   24
41129   36.3 N   071.4 E   5.0
           127     97.3       1.9   22-36-49.1   22-23-13.0
 LKOCQUYMSO                                       48 HINDU KU
SH AND PAMIR                 717 AFGHANISTAN-USSR BORDER REGION

183  8942 F4 71  6 26 2441129 36.3 N  71.4 E 48 717127. 127     9
7.3       1.9 22 36 49.1 22 23 13.0  8942 F4    71/06/26   24
41129   36.3 N   071.4 E   5.0
           127     97.3       1.9   22-36-49.1   22-23-13.0
 LKOCQUYMSO                                       48 HINDU KU
SH AND PAMIR                 717 AFGHANISTAN-USSR BORDER REGION

184  8943 BM 71  6 27 2441130 52.0 N-170.4 W  1   9 33.  33     4
0.9    301.9 18 15  8.8 18  7 23.4  8943 BM    71/06/27   24
41130   52.0 N   170.4 W   3.0
             33     40.9     301.9   18-15-08.8   18-07-23.4
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  LZKDWWJVQY                                          1 ALASKA -
  ALEUTIAN ARC                  9 FOX ISLANDS, ALEUTIAN ISLANDS

 184  8943 F1 71  6 27 2441130 52.0 N-170.4 W   1   9 33.  33    4
 0.9   301.9 18 15  8.8 18  7 23.4  8943 F1     71/06/27    24
 41130   52.0 N   170.4 W    3.0
              33     40.9     301.9    18-15-08.8    18-07-23.4
  LZKDWWJVQY                                          1 ALASKA -
  ALEUTIAN ARC                  9 FOX ISLANDS, ALEUTIAN ISLANDS

 184  8943 F2 71  6 27 2441130 52.0 N-170.4 W   1   9 33.  33    4
 0.9   301.9 18 15  8.8 18  7 23.4  8943 F2     71/06/27    24
 41130   52.0 N   170.4 W    3.0
              33     40.9     301.9    18-15-08.8    18-07-23.4
  LZKDWWJVQY                                          1 ALASKA -
  ALEUTIAN ARC                  9 FOX ISLANDS, ALEUTIAN ISLANDS

 184  8943 F3 71  6 27 2441130 52.0 N-170.4 W   1   9 33.  33    4
 0.9   301.9 18 15  8.8 18  7 23.4  8943 F3     71/06/27    24
 41130   52.0 N   170.4 W    3.0
              33     40.9     301.9    18-15-08.8    18-07-23.4
  LZKDWWJVQY                                          1 ALASKA -
  ALEUTIAN ARC                  9 FOX ISLANDS, ALEUTIAN ISLANDS

 184  8943 F4 71  6 27 2441130 52.0 N-170.4 W   1   9 33.  33    4
 0.9   301.9 18 15  8.8 18  7 23.4  8943 F4     71/06/27    24
 41130   52.0 N   170.4 W    3.0
              33     40.9     301.9    18-15-08.8    18-07-23.4
  LZKDWWJVQY                                          1 ALASKA -
  ALEUTIAN ARC                  9 FOX ISLANDS, ALEUTIAN ISLANDS

 185  8944 BM 71  6 28 2441131 37.9 N 106.2 E 27 323 33.  33    9
 0.8   335.0  5 14 50.3  5  1 43.9  8944 BM     71/06/28    24
 41131   37.9 N   106.2 E    5.2
              33     90.8     335.0    05-14-50.3    05-01-43.9
  DUBZOLYRHQ                                         27 SOUTHERN
  SINKIANG TO KANSU          323 NORTHERN CHINA

 185  8944 F1 71  6 28 2441131 37.9 N 106.2 E 27 323 33.  33    9
 0.8   335.0  5 14 50.3  5  1 43.9  8944 F1     71/06/28    24
 41131   37.9 N   106.2 E    5.2
              33     90.8     335.0    05-14-50.3    05-01-43.9
  DUBZOLYRHQ                                         27 SOUTHERN
  SINKIANG TO KANSU          323 NORTHERN CHINA

 185  8944 F2 71  6 28 2441131 37.9 N 106.2 E 27 323 33.  33    9
 0.8   335.0  5 14 50.3  5  1 43.9  8944 F2     71/06/28    24
 41131   37.9 N   106.2 E    5.2
              33     90.8     335.0    05-14-50.3    05-01-43.9
  DUBZOLYRHQ                                         27 SOUTHERN
  SINKIANG TO KANSU          323 NORTHERN CHINA

 185  8944 F3 71  6 28 2441131 37.9 N 106.2 E 27 323 33.  33    9
 0.8   335.0  5 14 50.3  5  1 43.9  8944 F3     71/06/28    24
 41131   37.9 N   106.2 E    5.2
              33     90.8     335.0    05-14-50.3    05-01-43.9
  DUBZOLYRHQ                                         27 SOUTHERN
  SINKIANG TO KANSU          323 NORTHERN CHINA

 185  8944 F4 71  6 28 2441131 37.9 N 106.2 E 27 323 33.  33    90
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.8    335.0  5 14 50.3  5  1 43.9  8944 F4     71/06/28   244
1131   37.9 N   106.2 E    5.2
              33     90.8     335.0   05-14-50.3   05-01-43.9
DURZOLYRHQ                                          27 SOUTHERN
SINKIANG TO KANSU           323 NORTHERN CHINA

186  8954 BM 71  6 29 2441132 37.2 N  36.8 E 30 366 35.  35    90
.1     28.6  9 21  9.8  9  8  6.5  8954 BM     71/06/29   244
1132   37.2 N   036.8 E    5.0
              35     90.1      28.6   09-21-09.8   09-08-06.5
YGLGBJZDKQ                                          30 MIDDLE EA
ST - CRIMEA - BALKANS   366 TURKEY

186  8954 F1 71  6 29 2441132 37.2 N  36.8 E 30 366 35.  35    90
.1     28.6  9 21  9.8  9  8  6.5  8954 F1     71/06/29   244
1132   37.2 N   036.8 E    5.0
              35     90.1      28.6   09-21-09.8   09-08-06.5
YGLGBJZDKQ                                          30 MIDDLE EA
ST - CRIMEA - BALKANS   366 TURKEY

186  8954 F2 71  6 29 2441132 37.2 N  36.8 E 30 366 35.  35    90
.1     28.6  9 21  9.8  9  8  6.5  8954 F2     71/06/29   244
1132   37.2 N   036.8 E    5.0
              35     90.1      28.6   09-21-09.8   09-08-06.5
YGLGBJZDKQ                                          30 MIDDLE EA
ST - CRIMEA - BALKANS   366 TURKEY

186  8954 F3 71  6 29 2441132 37.2 N  36.8 E 30 366 35.  35    90
.1     28.6  9 21  9.8  9  8  6.5  8954 F3     71/06/29   244
1132   37.2 N   036.8 E    5.0
              35     90.1      28.6   09-21-09.8   09-08-06.5
YGLGBJZDKQ                                          30 MIDDLE EA
ST - CRIMEA - BALKANS   366 TURKEY

186  8954 F4 71  6 29 2441132 37.2 N  36.8 E 30 366 35.  35    90
.1     28.6  9 21  9.8  9  8  6.5  8954 F4     71/06/29   244
1132   37.2 N   036.8 E    5.0
              35     90.1      28.6   09-21-09.8   09-08-06.5
YGLGBJZDKQ                                          30 MIDDLE EA
ST - CRIMEA - BALKANS   366 TURKEY

187  8955 BM 71  6 29 2441132 54.6 N-161.6 W  1  17 24.  24    35
.1   303.8 14 10 12.9 14  3 15.6  8955 BM     71/06/29   244
1132   54.6 N   161.6 W    5.2
              24     35.1     303.8   14-10-12.9   14-03-15.6
TSUFFQLBMP                                          1 ALASKA -
ALEUTIAN ARC                 17 SOUTH OF ALASKA

187  8955 F1 71  6 29 2441132 54.6 N-161.6 W  1  17 24.  24    35
.1   303.8 14 10 12.9 14  3 15.6  8955 F1     71/06/29   244
1132   54.6 N   161.6 W    5.2
              24     35.1     303.8   14-10-12.9   14-03-15.6
TSUFFQLBMP                                          1 ALASKA -
ALEUTIAN ARC                 17 SOUTH OF ALASKA

187  8955 F2 71  6 29 2441132 54.6 N-161.6 W  1  17 24.  24    35
.1   303.8 14 10 12.9 14  3 15.6  8955 F2     71/06/29   244
1132   54.6 N   161.6 W    5.2
              24     35.1     303.8   14-10-12.9   14-03-15.6
TSUFFQLBMP                                          1 ALASKA -
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ALEUTIAN ARC                17 SOUTH OF ALASKA

187  8955 F3 71   6 29 2441132 54.6 N-161.6 W  1  17 24.  24    35
.1   303.8 14 10 12.9 14  3 15.6  8955 F3    71/06/29   244
1132   54.6 N   161.6 W   5.2
           24    35.1    303.8   14-10-12.9   14-03-15.6
TSUFFQLBMP                                     1 ALASKA -
ALEUTIAN ARC                17 SOUTH OF ALASKA

187  8955 F4 71   6 29 2441132 54.6 N-161.6 W  1  17 24.  24    35
.1   303.8 14 10 12.9 14  3 15.6  8955 F4    71/06/29   244
1132   54.6 N   161.6 W   5.2
           24    35.1    303.8   14-10-12.9   14-03-15.6
TSUFFQLBMP                                     1 ALASKA -
ALEUTIAN ARC                17 SOUTH OF ALASKA

188  6919 BM 71   7  1 2441134 43.0 N -97.3 W 34 463 33.  33     7
.3    117.0  1 38 50.3  1 38 50.3  6919 BM    71/07/01   244
1134    43.0 N   097.3 W   4.6
           33      7.3    117.0   01-38-50.3   01-38-50.3
EELWKRWQMJ                                    34 EASTERN N
ORTH AMERICA               463 NEBRASKA

188  6919 F1 71   7  1 2441134 43.0 N -97.3 W 34 463 33.  33     7
.3    117.0  1 38 50.3  1 38 50.3  6919 F1    71/07/01   244
1134    43.0 N   097.3 W   4.6
           33      7.3    117.0   01-38-50.3   01-38-50.3
EELWKRWQMJ                                    34 EASTERN N
ORTH AMERICA               463 NEBRASKA

188  6919 F2 71   7  1 2441134 43.0 N -97.3 W 34 463 33.  33     7
.3    117.0  1 38 50.3  1 38 50.3  6919 F2    71/07/01   244
1134    43.0 N   097.3 W   4.6
           33      7.3    117.0   01-38-50.3   01-38-50.3
EELWKRWQMJ                                    34 EASTERN N
ORTH AMERICA               463 NEBRASKA

188  6919 F3 71   7  1 2441134 43.0 N -97.3 W 34 463 33.  33     7
.3    117.0  1 38 50.3  1 38 50.3  6919 F3    71/07/01   244
1134    43.0 N   097.3 W   4.6
           33      7.3    117.0   01-38-50.3   01-38-50.3
EELWKRWQMJ                                    34 EASTERN N
ORTH AMERICA               463 NEBRASKA

188  6919 F4 71   7  1 2441134 43.0 N -97.3 W 34 463 33.  33     7
.3    117.0  1 38 50.3  1 38 50.3  6919 F4    71/07/01   244
1134    43.0 N   097.3 W   4.6
           33      7.3    117.0   01-38-50.3   01-38-50.3
EELWKRWQMJ                                    34 EASTERN N
ORTH AMERICA               463 NEBRASKA

189  8838 BM 71   7  3 2441136 41.4 N -72.2 W 34 472 17.  17    24
.9     89.8  4 39 32.3  4 34  6.4  8838 BM    71/07/03   244
1136    41.4 N   072.2 W   4.9
           17     24.9     89.8   04-39-32.3   04-34-06.4
BFCCQZEYIL                                    34 EASTERN N
ORTH AMERICA               472 NEW YORK

189  8838 F1 71   7  3 2441136 41.4 N -72.2 W 34 472 17.  17    24
.9     89.8  4 39 32.3  4 34  6.4  8838 F1    71/07/03   244
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1136    41.4 N    072.2 W    4.9
               17     24.9       89.8   04-39-32.3   04-34-06.4
BFCCQZEYIL                                          34 EASTERN N
ORTH AMERICA                472 NEW YORK

189  8838 F2 71  7  3 2441136 41.4 N -72.2 W 34 472 17.  17    24
.9    89.8  4 39 32.3  4 34  6.4  8838 F2    71/07/03   244
1136    41.4 N    072.2 W    4.9
               17     24.9       89.8   04-39-32.3   04-34-06.4
BFCCQZEYIL                                          34 EASTERN N
ORTH AMERICA                472 NEW YORK

189  8838 F3 71  7  3 2441136 41.4 N -72.2 W 34 472 17.  17    24
.9    89.8  4 39 32.3  4 34  6.4  8838 F3    71/07/03   244
1136    41.4 N    072.2 W    4.9
               17     24.9       89.8   04-39-32.3   04-34-06.4
BFCCQZEYIL                                          34 EASTERN N
ORTH AMERICA                472 NEW YORK

190  8838 F4 71  7  3 2441136 41.4 N -72.2 W 34 472 17.  17    24
.9    89.8  4 39 32.3  4 34  6.4  8838 F4    71/07/03   244
1136    41.4 N    072.2 W    4.9
               17     24.9       89.8   04-39-32.3   04-34-06.4
BFCCQZEYIL                                          34 EASTERN N
ORTH AMERICA                472 NEW YORK

190  8839 BM 71  7  3 2441136 35.0 N -81.0 W 34 511 33.  33    22
.3   112.7  8 15 43.4  8 10 42.9  8839 BM    71/07/03   244
1136    35.0 N    081.0 W    5.0
               33     22.3      112.7   08-15-43.4   08-10-42.9
LHZZQBFWVS                                          34 EASTERN N
ORTH AMERICA                511 SOUTH CAROLINA

190  8839 F1 71  7  3 2441136 35.0 N -81.0 W 34 511 33.  33    22
.3   112.7  8 15 43.4  8 10 42.9  8839 F1    71/07/03   244
1136    35.0 N    081.0 W    5.0
               33     22.3      112.7   08-15-43.4   08-10-42.9
LHZZQBFWVS                                          34 EASTERN N
ORTH AMERICA                511 SOUTH CAROLINA

190  8839 F2 71  7  3 2441136 35.0 N -81.0 W 34 511 33.  33    22
.3   112.7  8 15 43.4  8 10 42.9  8839 F2    71/07/03   244
1136    35.0 N    081.0 W    5.0
               33     22.3      112.7   08-15-43.4   08-10-42.9
LHZZQBFWVS                                          34 EASTERN N
ORTH AMERICA                511 SOUTH CAROLINA

190  8839 F3 71  7  3 2441136 35.0 N -81.0 W 34 511 33.  33    22
.3   112.7  8 15 43.4  8 10 42.9  8839 F3    71/07/03   244
1136    35.0 N    081.0 W    5.0
               33     22.3      112.7   08-15-43.4   08-10-42.9
LHZZQBFWVS                                          34 EASTERN N
ORTH AMERICA                511 SOUTH CAROLINA

190  8839 F4 71  7  3 2441136 35.0 N -81.0 W 34 511 33.  33    22
.3   112.7  8 15 43.4  8 10 42.9  8839 F4    71/07/03   244
1136    35.0 N    081.0 W    5.0
               33     22.3      112.7   08-15-43.4   08-10-42.9
LHZZQBFWVS                                          34 EASTERN N
ORTH AMERICA                511 SOUTH CAROLINA
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191  8961 BM 71   7 11 2441144 37.2 N -36.8 W 32 403  9.   9    51
.0     74.2 20 25 56.8 20 16 51.1  8961 BM     71/07/11    244
1144   37.2 N    036.8 W    5.2
          9     51.0      74.2   20-25-56.8   20-16-51.1
GRUVOQTVGL                                      32 ATLANTIC
OCEAN                   403 NORTH ATLANTIC RIDGE

191  8961 F1 71   7 11 2441144 37.2 N -36.8 W 32 403  9.   9    51
.0     74.2 20 25 56.8 20 16 51.1  8961 F1     71/07/11    244
1144   37.2 N    036.8 W    5.2
          9     51.0      74.2   20-25-56.8   20-16-51.1
GRUVOQTVGL                                      32 ATLANTIC
OCEAN                   403 NORTH ATLANTIC RIDGE

191  8961 F2 71   7 11 2441144 37.2 N -36.8 W 32 403  9.   9    51
.0     74.2 20 25 56.8 20 16 51.1  8961 F2     71/07/11    244
1144   37.2 N    036.8 W    5.2
          9     51.0      74.2   20-25-56.8   20-16-51.1
GRUVOQTVGL                                      32 ATLANTIC
OCEAN                   403 NORTH ATLANTIC RIDGE

191  8961 F3 71   7 11 2441144 37.2 N -36.8 W 32 403  9.   9    51
.0     74.2 20 25 56.8 20 16 51.1  8961 F3     71/07/11    244
1144   37.2 N    036.8 W    5.2
          9     51.0      74.2   20-25-56.8   20-16-51.1
GRUVOQTVGL                                      32 ATLANTIC
OCEAN                   403 NORTH ATLANTIC RIDGE

191  8961 F4 71   7 11 2441144 37.2 N -36.8 W 32 403  9.   9    51
.0     74.2 20 25 56.8 20 16 51.1  8961 F4     71/07/11    244
1144   37.2 N    036.8 W    5.2
          9     51.0      74.2   20-25-56.8   20-16-51.1
GRUVOQTVGL                                      32 ATLANTIC
OCEAN                   403 NORTH ATLANTIC RIDGE

192  8964 BM 71   7 15 2441148 44.8 N  10.8 E 36 545  8.   8    73
.3     41.4  1 44 55.3  1 33 20.6  8964 BM     71/07/15    244
1148   44.8 N    010.8 E    5.2
          8     73.3      41.4   01-44-55.3   01-33-20.6
QTFLJEUHCC                                      36 NORTHWEST
ERN EUROPE              545 NORTHERN ITALY

192  8964 F1 71   7 15 2441148 44.8 N  10.8 E 36 545  8.   8    73
.3     41.4  1 44 55.3  1 33 20.6  8964 F1     71/07/15    244
1148   44.8 N    010.8 E    5.2
          8     73.3      41.4   01-44-55.3   01-33-20.6
QTFLJEUHCC                                      36 NORTHWEST
ERN EUROPE              545 NORTHERN ITALY

192  8964 F2 71   7 15 2441148 44.8 N  10.8 E 36 545  8.   8    73
.3     41.4  1 44 55.3  1 33 20.6  8964 F2     71/07/15    244
1148   44.8 N    010.8 E    5.2
          8     73.3      41.4   01-44-55.3   01-33-20.6
QTFLJEUHCC                                      36 NORTHWEST
ERN EUROPE              545 NORTHERN ITALY

192  8964 F3 71   7 15 2441148 44.8 N  10.8 E 36 545  8.   8    73
.3     41.4  1 44 55.3  1 33 20.6  8964 F3     71/07/15    244
1148   44.8 N    010.8 E    5.2
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               8     73.3      41.4   01-44-55.3   01-33-20.6
QTFLJEUHCC                                         36 NORTHWEST
ERN EUROPE                 545 NORTHERN ITALY

192  8964 F4 71  7 15 2441148 44.8 N  10.8 E 36 545  8.   8    73
.3    41.4  1 44 55.3  1 33 20.6  8964 F4     71/07/15   244
1148   44.8 N   010.8 E   5.2
               8     73.3      41.4   01-44-55.3   01-33-20.6
QTFLJEUHCC                                         36 NORTHWEST
ERN EUROPE                 545 NORTHERN ITALY

193  8967 BM 71  7 17 2441150 38.3 N  39.8 E 30 366 33.  33    90
.0    26.0 21 58 21.5 21 45 18.4  8967 BM     71/07/17   244
1150   38.3 N   039.8 E   4.5
              33     90.0      26.0   21-58-21.5   21-45-18.4
YWDLUKYKQR                                         30 MIDDLE EA
ST - CRIMEA - BALKANS   366 TURKEY

193  8967 F1 71  7 17 2441150 38.3 N  39.8 E 30 366 33.  33    90
.0    26.0 21 58 21.5 21 45 18.4  8967 F1     71/07/17   244
1150   38.3 N   039.8 E   4.5
              33     90.0      26.0   21-58-21.5   21-45-18.4
YWDLUKYKQR                                         30 MIDDLE EA
ST - CRIMEA - BALKANS   366 TURKEY

193  8967 F2 71  7 17 2441150 38.3 N  39.8 E 30 366 33.  33    90
.0    26.0 21 58 21.5 21 45 18.4  8967 F2     71/07/17   244
1150   38.3 N   039.8 E   4.5
              33     90.0      26.0   21-58-21.5   21-45-18.4
YWDLUKYKQR                                         30 MIDDLE EA
ST - CRIMEA - BALKANS   366 TURKEY

193  8967 F3 71  7 17 2441150 38.3 N  39.8 E 30 366 33.  33    90
.0    26.0 21 58 21.5 21 45 18.4  8967 F3     71/07/17   244
1150   38.3 N   039.8 E   4.5
              33     90.0      26.0   21-58-21.5   21-45-18.4
YWDLUKYKQR                                         30 MIDDLE EA
ST - CRIMEA - BALKANS   366 TURKEY

193  8967 F4 71  7 17 2441150 38.3 N  39.8 E 30 366 33.  33    90
.0    26.0 21 58 21.5 21 45 18.4  8967 F4     71/07/17   244
1150   38.3 N   039.8 E   4.5
              33     90.0      26.0   21-58-21.5   21-45-18.4
YWDLUKYKQR                                         30 MIDDLE EA
ST - CRIMEA - BALKANS   366 TURKEY

194  9137 BM 71  7 24 2441157 39.5 N  70.7 E 48 715 33.  33    94
.1     2.4 11 56 55.7 11 43 34.4  9137 BM     71/07/24   244
1157   39.5 N   070.7 E   5.6
              33     94.1       2.4   11-56-55.7   11-43-34.4
OBMMSQIIOL                                         48 HINDU KUS
H AND PAMIR                715 TADZHIK SSR

194  9137 F1 71  7 24 2441157 39.5 N  70.7 E 48 715 33.  33    94
.1     2.4 11 56 55.7 11 43 34.4  9137 F1     71/07/24   244
1157   39.5 N   070.7 E   5.6
              33     94.1       2.4   11-56-55.7   11-43-34.4
OBMMSQIIOL                                         48 HINDU KUS
H AND PAMIR                715 TADZHIK SSR
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194  9137 F2 71  7 24 2441157 39.5 N  70.7 E 48 715 33.  33     94
.1      2.4 11 56 55.7 11 43 34.4  9137 F2     71/07/24   244
1157   39.5 N   070.7 E   5.6
              33     94.1       2.4   11-56-55.7   11-43-34.4
OBMMSQIIOL                                          48 HINDU KUS
H AND PAMIR                  715 TADZHIK SSR

194  9137 F3 71  7 24 2441157 39.5 N  70.7 E 48 715 33.  33     94
.1      2.4 11 56 55.7 11 43 34.4  9137 F3     71/07/24   244
1157   39.5 N   070.7 E   5.6
              33     94.1       2.4   11-56-55.7   11-43-34.4
OBMMSQIIOL                                          48 HINDU KUS
H AND PAMIR                  715 TADZHIK SSR

194  9137 F4 71  7 24 2441157 39.5 N  70.7 E 48 715 33.  33     94
.1      2.4 11 56 55.7 11 43 34.4  9137 F4     71/07/24   244
1157   39.5 N   070.7 E   5.6
              33     94.1       2.4   11-56-55.7   11-43-34.4
OBMMSQIIOL                                          48 HINDU KUS
H AND PAMIR                  715 TADZHIK SSR

195  9138 BM 71  7 25 2441158 36.4 N  70.7 E 53 718213. 213     97
.2      2.5  1 28 43.8  1 15  8.2  9138 BM     71/07/25   244
1158   36.4 N   070.7 E    4.5
             213     97.2       2.5   01-28-43.8   01-15-08.2
WQOLOVHROS                                          53 G REG = 7
18 AND D GT 70               718 HINDU KUSH REGION

195  9138 F1 71  7 25 2441158 36.4 N  70.7 E 53 718213. 213     97
.2      2.5  1 28 43.8  1 15  8.2  9138 F1     71/07/25   244
1158   36.4 N   070.7 E    4.5
             213     97.2       2.5   01-28-43.8   01-15-08.2
WQOLOVHROS                                          53 G REG = 7
18 AND D GT 70               718 HINDU KUSH REGION

195  9138 F2 71  7 25 2441158 36.4 N  70.7 E 53 718213. 213     97
.2      2.5  1 28 43.8  1 15  8.2  9138 F2     71/07/25   244
1158   36.4 N   070.7 F    4.5
             213     97.2       2.5   01-28-43.8   01-15-08.2
WQOLOVHROS                                          53 G REG = 7
18 AND D GT 70               718 HINDU KUSH REGION

195  9138 F3 71  7 25 2441158 36.4 N  70.7 E 53 718213. 213     97
.2      2.5  1 28 43.8  1 15  8.2  9138 F3     71/07/25   244
1158   36.4 N   070.7 E    4.5
             213     97.2       2.5   01-28-43.8   01-15-08.2
WQOLOVHROS                                          53 G REG = 7
18 AND D GT 70               718 HINDU KUSH REGION

195  9138 F4 71  7 25 2441158 36.4 N  70.7 E 53 718213. 213     97
.2      2.5  1 28 43.8  1 15  8.2  9138 F4     71/07/25   244
1158   36.4 N   070.7 E    4.5
             213     97.2       2.5   01-28-43.8   01-15-08.2
WQOLOVHROS                                          53 G REG = 7
18 AND D GT 70               718 HINDU KUSH REGION

196  9362 BM 72  1  2 2441319 41.8 N  84.5 E 27 321 33.  33     91
.3   352.0 10 40 38.8 10 27 30.4  9362 BM     72/01/02   244
1319   41.8 N   084.5 E    5.2
              33     91.3     352.0   10-40-38.8   10-27-30.4
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QSLIJGGU00                                             27 SOUTHERN
SINKIANG TO KANSU          321 SOUTHERN SINKIANG PROV., CHINA

196  9362 F1 72  1  2 2441319 41.8 N  84.5 E 27 321 33.  33    91
.3   352.0 10 40 38.8 10 27 30.4  9362 F1    72/01/02   244
1319   41.8 N   084.5 E   5.2
           33    91.3    352.0   10-40-38.8   10-27-30.4
QSLIJGGU00                                             27 SOUTHERN
SINKIANG TO KANSU          321 SOUTHERN SINKIANG PROV., CHINA

196  9362 F2 72  1  2 2441319 41.8 N  84.5 E 27 321 33.  33    91
.3   352.0 10 40 38.8 10 27 30.4  9362 F2    72/01/02   244
1319   41.8 N   084.5 E   5.2
           33    91.3    352.0   10-40-38.8   10-27-30.4
QSLIJGGU00                                             27 SOUTHERN
SINKIANG TO KANSU          321 SOUTHERN SINKIANG PROV., CHINA

196  9362 F3 72  1  2 2441319 41.8 N  84.5 E 27 321 33.  33    91
.3   352.0 10 40 38.8 10 27 30.4  9362 F3    72/01/02   244
1319   41.8 N   084.5 E   5.2
           33    91.3    352.0   10-40-38.8   10-27-30.4
QSLIJGGU00                                             27 SOUTHERN
SINKIANG TO KANSU          321 SOUTHERN SINKIANG PROV., CHINA

196  9362 F4 72  1  2 2441319 41.8 N  84.5 E 27 321 33.  33    91
.3   352.0 10 40 38.8 10 27 30.4  9362 F4    72/01/02   244
1319   41.8 N   084.5 E   5.2
           33    91.3    352.0   10-40-38.8   10-27-30.4
QSLIJGGU00                                             27 SOUTHERN
SINKIANG TO KANSU          321 SOUTHERN SINKIANG PROV., CHINA

197  9365 BM 72  1  6 2441323 40.7 N  72.4 E 48 716 33.  33    92
.9      1.0  6 43 47.0  6 30 30.5  9365 BM    72/01/06   244
1323   40.7 N   072.4 E   4.7
           33    92.9      1.0   06-43-47.0   06-30-30.5
QGZBHOTLFS                                             48 HINDU KUS
H AND PAMIR                716 KIRGIZ SSR

197  9365 F1 72  1  6 2441323 40.7 N  72.4 E 48 716 33.  33    92
.9      1.0  6 43 47.0  6 30 30.5  9365 F1    72/01/06   244
1323   40.7 N   072.4 E   4.7
           33    92.9      1.0   06-43-47.0   06-30-30.5
QGZBHOTLFS                                             48 HINDU KUS
H AND PAMIR                716 KIRGIZ SSR

197  9365 F2 72  1  6 2441323 40.7 N  72.4 E 48 716 33.  33    92
.9      1.0  6 43 47.0  6 30 30.5  9365 F2    72/01/06   244
1323   40.7 N   072.4 E   4.7
           33    92.9      1.0   06-43-47.0   06-30-30.5
QGZBHOTLFS                                             48 HINDU KUS
H AND PAMIR                716 KIRGIZ SSR

197  9365 F3 72  1  6 2441323 40.7 N  72.4 E 48 716 33.  33    92
.9      1.0  6 43 47.0  6 30 30.5  9365 F3    72/01/06   244
1323   40.7 N   072.4 E   4.7
           33    92.9      1.0   06-43-47.0   06-30-30.5
QGZBHOTLFS                                             48 HINDU KUS
H AND PAMIR                716 KIRGIZ SSR

197  9365 F4 72  1  6 2441323 40.7 N  72.4 E 48 716 33.  33    92
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```
.9      1.0  6 43 47.0  6 30 30.5  9365 F4     72/01/06   244
1323   40.7 N   072.4 E   4.7
            33     92.9       1.0   06-43-47.0   06-30-30.5
QGZBHOTLFS                                         48 HINDU KUS
H AND PAMIR                716 KIRGIZ SSR

198  9370 BM 72  1 12 2441329 27.5 N  33.7 E 37 553 54.  54    97
.7     35.2  8 29 16.4  8 15 38.6  9370 BM     72/01/12   244
1329   27.5 N   033.7 E   5.1
            54     97.7      35.2   08-29-16.4   08-15-38.6
QSLZIGJZBG                                        37 AFRICA
                           553 UNITED ARAB REPUBLIC

198  9370 F1 72  1 12 2441329 27.5 N  33.7 E 37 553 54.  54    97
.7     35.2  8 29 16.4  8 15 38.6  9370 F1     72/01/12   244
1329   27.5 N   033.7 E   5.1
            54     97.7      35.2   08-29-16.4   08-15-38.6
QSLZIGJZBG                                        37 AFRICA
                           553 UNITED ARAB REPUBLIC

198  9370 F2 72  1 12 2441329 27.5 N  33.7 E 37 553 54.  54    97
.7     35.2  8 29 16.4  8 15 38.6  9370 F2     72/01/12   244
1329   27.5 N   033.7 E   5.1
            54     97.7      35.2   08-29-16.4   08-15-38.6
QSLZIGJZBG                                        37 AFRICA
                           553 UNITED ARAB REPUBLIC

198  9370 F3 72  1 12 2441329 27.5 N  33.7 E 37 553 54.  54    97
.7     35.2  8 29 16.4  8 15 38.6  9370 F3     72/01/12   244
1329   27.5 N   033.7 E   5.1
            54     97.7      35.2   08-29-16.4   08-15-38.6
QSLZIGJZBG                                        37 AFRICA
                           553 UNITED ARAB REPUBLIC

198  9370 F4 72  1 12 2441329 27.5 N  33.7 E 37 553 54.  54    97
.7     35.2  8 29 16.4  8 15 38.6  9370 F4     72/01/12   244
1329   27.5 N   033.7 E   5.1
            54     97.7      35.2   08-29-16.4   08-15-38.6
QSLZIGJZBG                                        37 AFRICA
                           553 UNITED ARAB REPUBLIC

199  9457 BM 72  1 14 2441331 37.2 N  71.5 E 48 717113. 113    96
.4      1.8  2 16 23.7  2  2 51.8  9457 BM     72/01/14   244
1331   37.2 N   071.5 E   4.5
           113     96.4       1.8   02-16-23.7   02-02-51.8
DQLTMJFKZP                                        48 HINDU KUS
H AND PAMIR                717 AFGHANISTAN-USSR BORDER REGION

199  9457 F1 72  1 14 2441331 37.2 N  71.5 E 48 717113. 113    96
.4      1.8  2 16 23.7  2  2 51.8  9457 F1     72/01/14   244
1331   37.2 N   071.5 E   4.5
           113     96.4       1.8   02-16-23.7   02-02-51.8
DQLTMJFKZP                                        48 HINDU KUS
H AND PAMIR                717 AFGHANISTAN-USSR BORDER REGION

199  9457 F2 72  1 14 2441331 37.2 N  71.5 E 48 717113. 113    96
.4      1.8  2 16 23.7  2  2 51.8  9457 F2     72/01/14   244
1331   37.2 N   071.5 E   4.5
           113     96.4       1.8   02-16-23.7   02-02-51.8
DQLTMJFKZP                                        48 HINDU KUS
```

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H AND PAMIR                   717 AFGHANISTAN-USSR BORDER REGION

199  9457 F3 72  1 14 2441331 37.2 N  71.5 E 48 717113. 113    96
.4      1.8  2 16 23.7  2  2 51.8  9457 F3     72/01/14    244
1331    37.2 N    071.5 E   4.5
            113     96.4       1.8    02-16-23.7    02-02-51.8
DQLIMJFKZP                                              48 HINDU KUS
H AND PAMIR                   717 AFGHANISTAN-USSR BORDER REGION

199  9457 F4 72  1 14 2441331 37.2 N  71.5 E 48 717113. 113    96
.4      1.8  2 16 23.7  2  2 51.8  9457 F4     72/01/14    244
1331    37.2 N    071.5 E   4.5
            113     96.4       1.8    02-16-23.7    02-02-51.8
DQLIMJFKZP                                              48 HINDU KUS
H AND PAMIR                   717 AFGHANISTAN-USSR BORDER REGION

200  9374 BM 72  1 18 2441335 37.6 N  48.7 E 29 345 33.  33    93
.0     19.6 21 25 13.8 21 11 56.6  9374 BM     72/01/18    244
1335   37.6 N    048.7 E   4.9
            33     93.0       19.6   21-25-13.8    21-11-56.6
IDVQBILMGR                                              29 WESTERN A
SIA                           345 NORTHWESTERN IRAN

200  9374 F1 72  1 18 2441335 37.6 N  48.7 E 29 345 33.  33    93
.0     19.6 21 25 13.8 21 11 56.6  9374 F1     72/01/18    244
1335   37.6 N    048.7 E   4.9
            33     93.0       19.6   21-25-13.8    21-11-56.6
IDVQBILMGR                                              29 WESTERN A
SIA                           345 NORTHWESTERN IRAN

200  9374 F2 72  1 18 2441335 37.6 N  48.7 E 29 345 33.  33    93
.0     19.6 21 25 13.8 21 11 56.6  9374 F2     72/01/18    244
1335   37.6 N    048.7 E   4.9
            33     93.0       19.6   21-25-13.8    21-11-56.6
IDVQBILMGR                                              29 WESTERN A
SIA                           345 NORTHWESTERN IRAN

200  9374 F3 72  1 18 2441335 37.6 N  48.7 E 29 345 33.  33    93
.0     19.6 21 25 13.8 21 11 56.6  9374 F3     72/01/18    244
1335   37.6 N    048.7 E   4.9
            33     93.0       19.6   21-25-13.8    21-11-56.6
IDVQBILMGR                                              29 WESTERN A
SIA                           345 NORTHWESTERN IRAN

200  9374 F4 72  1 18 2441335 37.6 N  48.7 E 29 345 33.  33    93
.0     19.6 21 25 13.8 21 11 56.6  9374 F4     72/01/18    244
1335   37.6 N    048.7 E   4.9
            33     93.0       19.6   21-25-13.8    21-11-56.6
IDVQBILMGR                                              29 WESTERN A
SIA                           345 NORTHWESTERN IRAN

201
201  9462 BM 72  1 20 2441337 60.7 N-153.2 W  1   2138. 138
  30.4   314.8   9 30 24.6   9 24  8.5  9462 BM      72/01/20
 2441337   60.7 N    153.2 W   4.6
             138    30.4    314.8   09-30-24.6    09-24-08.
5   LMWFYQWCGK                                            1 ALASK
A - ALEUTIAN ARC                2 SOUTHERN ALASKA

201  9462 F1 72  1 20 2441337 60.7 N-153.2 W  1   2138. 138
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   30.4   314.8  9 30 24.6  9 24 8.5   9462 F1    72/01/20
  2441337   60.7 N   153.2 W   4.6
               138    30.4    314.8   09-30-24.6   09-24-08
.5   LMWFYQWCGK                                   1 ALAS
KA - ALEUTIAN ARC              2 SOUTHERN ALASKA

201  9462 F2 72  1 20 2441337 60.7 N-153.2 W  1   2138. 138
   30.4   314.8  9 30 24.6  9 24 8.5   9462 F2    72/01/20
  2441337   60.7 N   153.2 W   4.6
               138    30.4    314.8   09-30-24.6   09-24-08
.5   LMWFYQWCGK                                   1 ALAS
KA - ALEUTIAN ARC              2 SOUTHERN ALASKA

201  9462 F3 72  1 20 2441337 60.7 N-153.2 W  1   2138. 138
   30.4   314.8  9 30 24.6  9 24 8.5   9462 F3    72/01/20
  2441337'  60.7 N   153.2 W   4.6
               138    30.4    314.8   09-30-24.6   09-24-08
.5   LMWFYQWCGK                                   1 ALAS
KA - ALEUTIAN ARC              2 SOUTHERN ALASKA

201  9462 F4 72  1 20 2441337 60.7 N-153.2 W  1   2138. 138
   30.4   314.8  9 30 24.6  9 24 8.5   9462 F4    72/01/20
  2441337   60.7 N   153.2 W   4.6
               138    30.4    314.8   09-30-24.6   09-24-08
.5   LMWFYQWCGK                                   1 ALAS
KA - ALEUTIAN ARC              2 SOUTHERN ALASKA

202  9463 BM 72  1 20 2441337 36.4 N  70.7 E 53 718213. 213
   97.2     2.5 11 49 38.3 11 36  2.7  9463 BM    72/01/20
  2441337   36.4 N   070.7 E   6.0
               213    97.2      2.5   11-49-38.3   11-36-02
.7   CCMDRZMQVL                                  53 G RE
G = 718 AND D GT 70          718 HINDU KUSH REGION

202  9463 F1 72  1 20 2441337 36.4 N  70.7 E 53 718213. 213
   97.2     2.5 11 49 38.3 11 36  2.7  9463 F1    72/01/20
  2441337   36.4 N   070.7 E   6.0
               213    97.2      2.5   11-49-38.3   11-36-02
.7   CCMDRZMQVL                                  53 G RE
G = 718 AND D GT 70          718 HINDU KUSH REGION

202  9463 F2 72  1 20 2441337 36.4 N  70.7 E 53 718213. 213
   97.2     2.5 11 49 38.3 11 36  2.7  9463 F2    72/01/20
  2441337   36.4 N   070.7 E   6.0
               213    97.2      2.5   11-49-38.3   11-36-02
.7   CCMDRZMQVL                                  53 G RE
G = 718 AND D GT 70          718 HINDU KUSH REGION

202  9463 F2 72  1 20 2441337 36.4 N  70.7 E 53 718213. 213
   97.2     2.5 11 49 38.3 11 36  2.7  9463 F2    72/01/20
  2441337   36.4 N   070.7 E   6.0
               213    97.2      2.5   11-49-38.3   11-36-02
.7   CCMDRZMQVL                                  53 G RE
G = 718 AND D GT 70          718 HINDU KUSH REGION

202  9463 F3 72  1 20 2441337 36.4 N  70.7 E 53 718213. 213
   97.2     2.5 11 49 38.3 11 36  2.7  9463 F3    72/01/20
  2441337   36.4 N   070.7 E   6.0
               213    97.2      2.5   11-49-38.3   11-36-02
.7   CCMDRZMQVL                                  53 G RE
```

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G = 718 AND D GT 70          718 HINDU KUSH REGION

203  9479 BM 72  1 23 2441340 43.5 N-127.0 W  3  30 33.  33
   15.0   265.3 10 44 12.5 10 40 37.4  9479 BM     72/01/23
  2441340   43.5 N   127.0 W   4.8
                    33    15.0    265.3   10-44-12.5   10-40-37
.4   QLUPMZDGVH                                          3 CALI
FORNIA - NEVADA REGION        30 OFF COAST OF OREGON

203  9479 F1 72  1 23 2441340 43.5 N-127.0 W  3  30 33.  33
   15.0   265.3 10 44 12.5 10 40 37.4  9479 F1     72/01/23
  2441340   43.5 N   127.0 W   4.8
                    33    15.0    265.3   10-44-12.5   10-40-37
.4   QLUPMZDGVH                                          3 CALI
FORNIA - NEVADA REGION        30 OFF COAST OF OREGON

203  9479 F2 72  1 23 2441340 43.5 N-127.0 W  3  30 33.  33
   15.0   265.3 10 44 12.5 10 40 37.4  9479 F2     72/01/23
  2441340   43.5 N   127.0 W   4.8
                    33    15.0    265.3   10-44-12.5   10-40-37
.4   QLUPMZDGVH                                          3 CALI
FORNIA - NEVADA REGION        30 OFF COAST OF OREGON

203  9479 F3 72  1 23 2441340 43.5 N-127.0 W  3  30 33.  33
   15.0   265.3 10 44 12.5 10 40 37.4  9479 F3     72/01/23
  2441340   43.5 N   127.0 W   4.8
                    33    15.0    265.3   10-44-12.5   10-40-37
.4   QLUPMZDGVH                                          3 CALI
FORNIA - NEVADA REGION        30 OFF COAST OF OREGON

203  9479 F4 72  1 23 2441340 43.5 N-127.0 W  3  30 33.  33
   15.0   265.3 10 44 12.5 10 40 37.4  9479 F4     72/01/23
  2441340   43.5 N   127.0 W   4.8
                    33    15.0    265.3   10-44-12.5   10-40-37
.4   QLUPMZDGVH                                          3 CALI
FORNIA - NEVADA REGION        30 OFF COAST OF OREGON

204  9471 BM 72  1 25 2441342 35.6 N   69.8 E 48 718 33.  33
   97.9       3.3  6 11 13.2  5 57 34.6  9471 BM     72/01/25
  2441342   35.6 N   069.8 E   3.5
                    33    97.9      3.3   06-11-13.2   05-57-34
.6   TLQPVRDOFT                                         48 HIND
U KUSH AND PAMIR             718 HINDU KUSH REGION

204  9471 F1 72  1 25 2441342 35.6 N   69.8 E 48 718 33.  33
   97.9       3.3  6 11 13.2  5 57 34.6  9471 F1     72/01/25
  2441342   35.6 N   069.8 E   3.5
                    33    97.9      3.3   06-11-13.2   05-57-34
.6   TLQPVRDOFT                                         48 HIND
U KUSH AND PAMIR             718 HINDU KUSH REGION

204  9471 F2 72  1 25 2441342 35.6 N   69.8 E 48 718 33.  33
   97.9       3.3  6 11 13.2  5 57 34.6  9471 F2     72/01/25
  2441342   35.6 N   069.8 E   3.5
                    33    97.9      3.3   06-11-13.2   05-57-34
.6   TLQPVRDOFT                                         48 HIND
U KUSH AND PAMIR             718 HINDU KUSH REGION

204  9471 F3 72  1 25 2441342 35.6 N   69.8 E 48 718 33.  33
   97.9       3.3  6 11 13.2  5 57 34.6  9471 F3     72/01/25
  2441342    35.6 N    069.8 E    3.5
                 33      97.9       3.3   06-11-13.2   05-57-34
.6   TLQPVRDOFI                                          48 HIND
U KUSH AND PAMIR                   718 HINDU KUSH REGION

204  9471 F4 72  1 25 2441342 35.6 N  69.8 E 48 718 33.  33
   97.9      3.3  6 11 13.2  5 57 34.6  9471 F4     72/01/25
  2441342    35.6 N    069.8 E    3.5
                 33      97.9       3.3   06-11-13.2   05-57-34
.6   TLQPVRDOFI                                          48 HIND
U KUSH AND PAMIR                   718 HINDU KUSH REGION

205  9690 BM 72  2  3 2441351 40.7 N  48.4 E 29 337 33.  33
   90.0     19.0  3 21 11.3  3  8  8.2  9690 BM     72/02/03
  2441351    40.7 N    048.4 E    3.4
                 33      90.0      19.0   03-21-11.3   03-08-08
.2   DQTHUSYMBL                                          29 WEST
ERN ASIA                           337 EASTERN CAUCASUS

205  9690 F1 72  2  3 2441351 40.7 N  48.4 E 29 337 33.  33
   90.0     19.0  3 21 11.3  3  8  8.2  9690 F1     72/02/03
  2441351    40.7 N    048.4 E    3.4
                 33      90.0      19.0   03-21-11.3   03-08-08
.2   DQTHUSYMBL                                          29 WEST
ERN ASIA                           337 EASTERN CAUCASUS

205  9690 F2 72  2  3 2441351 40.7 N  48.4 E 29 337 33.  33
   90.0     19.0  3 21 11.3  3  8  8.2  9690 F2     72/02/03
  2441351    40.7 N    048.4 E    3.4
                 33      90.0      19.0   03-21-11.3   03-08-08
.2   DQTHUSYMBL                                          29 WEST
ERN ASIA                           337 EASTERN CAUCASUS

205  9690 F3 72  2  3 2441351 40.7 N  48.4 E 29 337 33.  33
   90.0     19.0  3 21 11.3  3  8  8.2  9690 F3     72/02/03
  2441351    40.7 N    048.4 E    3.4
                 33      90.0      19.0   03-21-11.3   03-08-08
.2   DQTHUSYMBL                                          29 WEST
ERN ASIA                           337 EASTERN CAUCASUS

205  9690 F4 72  2  3 2441351 40.7 N  48.4 E 29 337 33.  33
   90.0     19.0  3 21 11.3  3  8  8.2  9690 F4     72/02/03
  2441351    40.7 N    048.4 E    3.4
                 33      90.0      19.0   03-21-11.3   03-08-08
.2   DQTHUSYMBL                                          29 WEST
ERN ASIA                           337 EASTERN CAUCASUS

206  9706 BM 72  2 22 2441370 36.4 N  70.6 E 53 718212. 212
   97.2      2.6  1 27 57.0  1 14 21.4  9706 BM     72/02/22
  2441370    36.4 N    070.6 E    5.3
                212      97.2       2.6   01-27-57.0   01-14-21
.4   DOOYZMZFQL                                          53 G RE
G = 718 AND D GT 70                718 HINDU KUSH REGION

206  9706 F1 72  2 22 2441370 36.4 N  70.6 E 53 718212. 212
   97.2      2.6  1 27 57.0  1 14 21.4  9706 F1     72/02/22
  2441370    36.4 N    070.6 E    5.3
                212      97.2       2.6   01-27-57.0   01-14-21
.4   DOOYZMZFQL                                          53 G RE
G = 718 AND D GT 70                718 HINDU KUSH REGION
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206  9706 F2 72  2 22 2441370 36.4 N  70.6 E 53 718212. 212
   97.2      2.6  1 27 57.0  1 14 21.4  9706 F2     72/02/22
  2441370   36.4 N   070.6 E   5.3
                212     97.2       2.6   01-27-57.0   01-14-21
.4   DOOYZMZFQL                                          53 G RE
G = 718 AND D GT 70           718 HINDU KUSH REGION

206  9706 F3 72  2 22 2441370 36.4 N  70.6 E 53 718212. 212
   97.2      2.6  1 27 57.0  1 14 21.4  9706 F3     72/02/22
  2441370   36.4 N   070.6 E   5.3
                212     97.2       2.6   01-27-57.0   01-14-21
.4   DOOYZMZFQL                                          53 G RE
G = 718 AND D GT 70           718 HINDU KUSH REGION

206  9706 F4 72  2 22 2441370 36.4 N  70.6 E 53 718212. 212
   97.2      2.6  1 27 57.0  1 14 21.4  9706 F4     72/02/22
  2441370   36.4 N   070.6 E   5.3
                212     97.2       2.6   01-27-57.0   01-14-21
.4   DOOYZMZFQL                                          53 G RE
G = 718 AND D GT 70           718 HINDU KUSH REGION

207  9712 BM 72  2 26 2441374 50.6 N  97.3 E 28 333 33.  33
   80.9   345.1 23 43 22.4 23 31  4.9  9712 BM     72/02/26
  2441374   50.6 N   097.3 E   5.3
                 33     80.9    345.1   23-43-22.4   23-31-04
.9   GRTLQPEPFR                                          28 ALMA
-ATA TO LAKE BAIKAL           333 USSR-MONGOLIA BORDER REGION

207  9712 F1 72  2 26 2441374 50.6 N  97.3 E 28 333 33.  33
   80.9   345.1 23 43 22.4 23 31  4.9  9712 F1     72/02/26
  2441374   50.6 N   097.3 E   5.3
                 33     80.9    345.1   23-43-22.4   23-31-04
.9   GRTLQPEPFR                                          28 ALMA
-ATA TO LAKE BAIKAL           333 USSR-MONGOLIA BORDER REGION

207  9712 F2 72  2 26 2441374 50.6 N  97.3 E 28 333 33.  33
   80.9   345.1 23 43 22.4 23 31  4.9  9712 F2     72/02/26
  2441374   50.6 N   097.3 E   5.3
                 33     80.9    345.1   23-43-22.4   23-31-04
.9   GRTLQPEPFR                                          28 ALMA
-ATA TO LAKE BAIKAL           333 USSR-MONGOLIA BORDER REGION

207  9712 F3 72  2 26 2441374 50.6 N  97.3 E 28 333 33.  33
   80.9   345?1 23 43 22.4 23 31  4.9  9712 F3     72/02/26
  2441374   50.6 N   097.3 E   5.3
                 33     80.9    345.1   23-43-22.4   23-31-04
.9   GRTLQPEPFR                                          28 ALMA
-ATA TO LAKE BAIKAL           333 USSR-MONGOLIA BORDER REGION

207  9712 F4 72  2 26 2441374 50.6 N  97.3 E 28 333 33.  33
   80.9   345.1 23 43 22.4 23 31  4.9  9712 F4     72/02/26
  2441374   50.6 N   097.3 E   5.3
                 33     80.9    345.1   23-43-22.4   23-31-04
.9   GRTLQPEPFR                                          28 ALMA
-ATA TO LAKE BAIKAL           333 USSR-MONGOLIA BORDER REGION

208  9790 BM 72  3  4 2441381 38.3 N  74.0 E 48 719130. 130
   95.3   359.8 18 37 21.8 18 23 54.6  9790 BM     72/03/04
  2441381   38.3 N   074.0 E   5.1
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               130   95.3     359.8   18-37-21.8   18-23-54
.6   KLQCRPZUTD                                     48 HIND
U KUSH AND PAMIR             719 TADZHIK-SINKIANG BORDER REG
ION
208  9790 F1 72  3  4 2441381 38.3 N  74.0 E 48 719130. 130
   95.3   359.8 18 37 21.8 18 23 54.6  9790 F1     72/03/04
  2441381   38.3 N   074.0 E   5.1
               130   95.3     359.8   18-37-21.8   18-23-54
.6   KLQCRPZUTD                                     48 HIND
U KUSH AND PAMIR             719 TADZHIK-SINKIANG BORDER REG
ION
208  9790 F2 72  3  4 2441381 38.3 N  74.0 E 48 719130. 130
   95.3   359.8 18 37 21.8 18 23 54.6  9790 F2     72/03/04
  2441381   38.3 N   074.0 E   5.1
               130   95.3     359.8   18-37-21.8   18-23-54
.6   KLQCRPZUTD                                     48 HIND
U KUSH AND PAMIR             719 TADZHIK-SINKIANG BORDER REG
ION
208  9790 F3 72  3  4 2441381 38.3 N  74.0 E 48 719130. 130
   95.3   359.8 18 37 21.8 18 23 54.6  9790 F3     72/03/04
  2441381   38.3 N   074.0 E   5.1
               130   95.3     359.8   18-37-21.8   18-23-54
.6   KLQCRPZUTD                                     48 HIND
U KUSH AND PAMIR             719 TADZHIK-SINKIANG BORDER REG
ION
208  9790 F4 72  3  4 2441381 38.3 N  74.0 E 48 719130. 130
   95.3   359.8 18 37 21.8 18 23 54.6  9790 F4     72/03/04
  2441381   38.3 N   074.0 E   5.1
               130   95.3     359.8   18-37-21.8   18-23-54
.6   KLQCRPZUTD                                     48 HIND
U KUSH AND PAMIR             719 TADZHIK-SINKIANG BORDER REG
ION
209  9729 BM 72  3 17 2441394 40.1 N  69.7 E 48 715 26.  26
   93.4     3.1  9 30 25.4  9 17  6.7  9729 BM     72/03/17
  2441394   40.1 N   069.7 E   5.2
                26    93.4      3.1   09-30-25.4   09-17-06
.7   EUPKZQFLSB                                     48 HIND
U KUSH AND PAMIR             715 TADZHIK SSR

209  9729 F1 72  3 17 2441394 40.1 N  69.7 E 48 715 26.  26
   93.4     3.1  9 30 25.4  9 17  6.7  9729 F1     72/03/17
  2441394   40.1 N   069.7 E   5.2
                26    93.4      3.1   09-30-25.4   09-17-06
.7   EUPKZQFLSB                                     48 HIND
U KUSH AND PAMIR             715 TADZHIK SSR

209  9729 F2 72  3 17 2441394 40.1 N  69.7 E 48 715 26.  26
   93.4     3.1  9 30 25.4  9 17  6.7  9729 F2     72/03/17
  2441394   40.1 N   069.7 E   5.2
                26    93.4      3.1   09-30-25.4   09-17-06
.7   EUPKZQFLSB                                     48 HIND
U KUSH AND PAMIR             715 TADZHIK SSR

209  9729 F3 72  3 17 2441394 40.1 N  69.7 E 48 715 26.  26
   93.4     3.1  9 30 25.4  9 17  6.7  9729 F3     72/03/17
  2441394   40.1 N   069.7 E   5.2
                26    93.4      3.1   09-30-25.4   09-17-06
.7   EUPKZQFLSB                                     48 HIND
U KUSH AND PAMIR             715 TADZHIK SSR
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209  9729 F4 72  3 17 2441394 40.1 N  69.7 E 48 715 26.  26
   93.4      3.1  9 30 25.4  9 17  6.7  9729 F4     72/03/17
  2441394   40.1 N    069.7 E    5.2
                   26     93.4       3.1   09-30-25.4   09-17-06
.7   EUPKZQFLSR                                          48 HIND
U KUSH AND PAMIR                  715 TADZHIK SSR

210  9731 BM 72  3 20 2441397 51.3 N-179.7 W  1   7 46.  46
   46.6   304.1 23 40 11.8 23 31 40.4  9731 BM     72/03/20
  2441397   51.3 N    179.7 W    6.0
                   46     46.6     304.1   23-40-11.8   23-31-40
.4   TLCHCRJEQM                                          1 ALAS
KA - ALEUTIAN ARC                   7 ANDREANOF ISLANDS, ALEUTIAN
 IS.
210  9731 F1 72  3 20 2441397 51.3 N-179.7 W  1   7 46.  46
   46.6   304.1 23 40 11.8 23 31 40.4  9731 F1     72/03/20
  2441397   51.3 N    179.7 W    6.0
                   46     46.6     304.1   23-40-11.8   23-31-40
.4   TLCHCRJEQM                                          1 ALAS
KA - ALEUTIAN ARC                   7 ANDREANOF ISLANDS, ALEUTIAN
 IS.
210  9731 F2 72  3 20 2441397 51.3 N-179.7 W  1   7 46.  46
   46.6   304.1 23 40 11.8 23 31 40.4  9731 F2     72/03/20
  2441397   51.3 N    179.7 W    6.0
                   46     46.6     304.1   23-40-11.8   23-31-40
.4   TLCHCRJEQM                                          1 ALAS
KA - ALEUTIAN ARC                   7 ANDREANOF ISLANDS, ALEUTIAN
 IS.
210  9731 F3 72  3 20 2441397 51.3 N-179.7 W  1   7 46.  46
   46.6   304.1 23 40 11.8 23 31 40.4  9731 F3     72/03/20
  2441397   51.3 N    179.7 W    6.0
                   46     46.6     304.1   23-40-11.8   23-31-40
.4   TLCHCRJEQM                                          1 ALAS
KA - ALEUTIAN ARC                   7 ANDREANOF ISLANDS, ALEUTIAN
 IS.
210  9731 F4 72  3 20 2441397 51.3 N-179.7 W  1   7 46.  46
   46.6   304.1 23 40 11.8 23 31 40.4  9731 F4     72/03/20
  2441397   51.3 N    179.7 W    6.0
                   46     46.6     304.1   23-40-11.8   23-31-40
.4   TLCHCRJEQM                                          1 ALAS
KA - ALEUTIAN ARC                   7 ANDREANOF ISLANDS, ALEUTIAN
 IS.
211  9742 BM 72  4  2 2441410 36.1 N  73.6 E 48 720 47.  47
   97.5       .1  3 47 58.2  3 34 21.2  9742 BM     72/04/02
  2441410   36.1 N    073.6 E    5.0
                   47     97.5        .1   03-47-58.2   03-34-21
.2   SQGRLHVTSR                                          48 HIND
U KUSH AND PAMIR                  720 NORTHWESTERN KASHMIR

211  9742 F1 72  4  2 2441410 36.1 N  73.6 E 48 720 47.  47
   97.5       .1  3 47 58.2  3 34 21.2  9742 F1     72/04/02
  2441410   36.1 N    073.6 E    5.0
                   47     97.5        .1   03-47-58.2   03-34-21
.2   SQGRLHVTSR                                          48 HIND
U KUSH AND PAMIR                  720 NORTHWESTERN KASHMIR

211  9742 F2 72  4  2 2441410 36.1 N  73.6 E 48 720 47.  47
   97.5       .1  3 47 58.2  3 34 21.2  9742 F2     72/04/02
  2441410   36.1 N    073.6 E    5.0
                   47     97.5        .1   03-47-58.2   03-34-21
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.2    SQGRLHVTSR                                           48 HIND
U KUSH AND PAMIR                    720 NORTHWESTERN KASHMIR

211  9742 F3 72  4  2 2441410 36.1 N  73.6 E 48 720 47.  47
   97.5        .1  3 47 58.2  3 34 21.2  9742 F3     72/04/02
  2441410   36.1 N   073.6 E   5.0
                47     97.5        .1   03-47-58.2   03-34-21
.2    SQGRLHVTSR                                           48 HIND
U KUSH AND PAMIR                    720 NORTHWESTERN KASHMIR

211  9742 F4 72  4  2 2441410 36.1 N  73.6 E 48 720 47.  47
   97.5        .1  3 47 58.2  3 34 21.2  9742 F4     72/04/02
  2441410   36.1 N   073.6 E   5.0
                47     97.5        .1   03-47-58.2   03-34-21
.2    SQGRLHVTSR                                           48 HIND
U KUSH AND PAMIR                    720 NORTHWESTERN KASHMIR

212  9748 BM 72  4  5 2441413 38.4 N  73.5 E 48 719118. 118
   95.2        .2 22 51 48.6 22 38 21.8  9748 BM     72/04/05
  2441413   38.4 N   073.5 E   5.0
               118     95.2        .2   22-51-48.6   22-38-21
.8    SULDYOQROZ                                           48 HIND
U KUSH AND PAMIR                    719 TADZHIK-SINKIANG BORDER REG
ION
212  9748 F1 72  4  5 2441413 38.4 N  73.5 E 48 719118. 118
   95.2        .2 22 51 48.6 22 38 21.8  9748 F1     72/04/05
  2441413   38.4 N   073.5 E   5.0
               118     95.2        .2   22-51-48.6   22-38-21
.8    SULDYOQROZ                                           48 HIND
U KUSH AND PAMIR                    719 TADZHIK-SINKIANG BORDER REG
ION
212  9748 F2 72  4  5 2441413 38.4 N  73.5 E 48 719118. 118
   95.2        .2 22 51 48.6 22 38 21.8  9748 F2     72/04/05
  2441413   38.4 N   073.5 E   5.0
               118     95.2        .2   22-51-48.6   22-38-21
.8    SULDYOQROZ                                           48 HIND
U KUSH AND PAMIR                    719 TADZHIK-SINKIANG BORDER REG
ION
212  9748 F3 72  4  5 2441413 38.4 NN 73.5 E 48 719118. 118
   95.2        .2 22 51 48.6 22 38 21.8  9748 F3     72/04/05
  2441413   38.4 N   073.5 E   5.0
               118     95.2        .2   22-51-48.6   22-38-21
.8    SULDYOQROZ                                           48 HIND
U KUSH AND PAMIR                    719 TADZHIK-SINKIANG BORDER REG
ION
212  9748 F4 72  4  5 2441413 38.4 N  73.5 E 48 719118. 118
   95.2        .2 22 51 48.6 22 38 21.8  9748 F4     72/04/05
  2441413   38.4 N   073.5 E   5.0
               118     95.2        .2   22-51-48.6   22-38-21
.8    SULDYOQROZ                                           48 HIND
U KUSH AND PAMIR                    719 TADZHIK-SINKIANG BORDER REG
ION
213  9754 BM 72  4  9 2441417 42.2 N  84.6 E 28 332 33.  33
   90.9    352.0  4 23 52.8  4 10 46.3  9754 BM     72/04/09
  2441417   42.2 N   084.6 E   5.9
                33     90.9     352.0   04-23-52.8   04-10-46
.3    CBIJSUQULE                                           28 ALMA
-ATA TO LAKE BAIKAL                 332 NORTHERN SINKIANG PROV., CH
INA
213  9754 F1 72  4  9 2441417 42.2 N  84.6 E 28 332 33.  33
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    90.9    352.0  4 23 52.8  4 10 46.3  9754 F1     72/04/09
  2441417    42.2 N    084.6 E    5.9
                     33     90.9     352.0    04-23-52.8    04-10-46
 .3   CBIJSUQULE                                          28 ALMA
 -ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
 INA
 213  9754 F2 72  4  9 2441417 42.2 N  84.6 E 28 332 33.  33
    90.9    352.0  4 23 52.8  4 10 46.3  9754 F2     72/04/09
  2441417    42.2 N    084.6 E    5.9
                     33     90.9     352.0    04-23-52.8    04-10-46
 .3   CBIJSUQULE                                          28 ALMA
 -ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
 INA
 213  9754 F3 72  4  9 2441417 42.2 N  84.6 E 28 332 33.  33
    90.9    352.0  4 23 52.8  4 10 46.3  9754 F3     72/04/09
  2441417    42.2 N    084.6 E    5.9
                     33     90.9     352.0    04-23-52.8    04-10-46
 .3   CBIJSUQULE                                          28 ALMA
 -ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
 INA
 213  9754 F4 72  4  9 2441417 42.2 N  84.6 E 28 332 33.  33
    90.9    352.0  4 23 52.8  4 10 46.3  9754 F4     72/04/09
  2441417    42.2 N    084.6 E    5.9
                     33     90.9     352.0    04-23-52.8    04-10-46
 .3   CBIJSUQULE                                          28 ALMA
 -ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
 INA
 214  9767 BM 72  4 20 2441428 42.0 N  84.6 E 28 332 33.  33
    91.1    352.0  1 14 58.9  1  1 51.5  9767 BM     72/04/20
  2441428    42.0 N    084.6 E    4.3
                     33     91.1     352.0    01-14-58.9    01-01-51
 .5   SQZMPFTLYH                                          28 ALMA
 -ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
 INA
 214  9767 F1 72  4 20 2441428 42.0 N  84.6 E 28 332 33.  33
    91.1    352.0  1 14 58.9  1  1 51.5  9767 F1     72/04/20
  2441428    42.0 N    084.6 E    4.3
                     33     91.1     352.0    01-14-58.9    01-01-51
 .5   SQZMPFTLYH                                          28 ALMA
 -ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
 INA
 214  9767 F2 72  4 20 2441428 42.0 N  84.6 E 28 332 33.  33
    91.1    352.0  1 14 58.9  1  1 51.5  9767 F2     72/04/20
  2441428    42.0 N    084.6 E    4.3
                     33     91.1     352.0    01-14-58.9    01-01-51
 .5   SQZMPFTLYH                                          28 ALMA
 -ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
 INA
 214  9767 F3 72  4 20 2441428 42.0 N  84.6 E 28 332 33.  33
    91.1    352.0  1 14 58.9  1  1 51.5  9767 F3     72/04/20
  2441428    42.0 N    084.6 E    4.3
                     33     91.1     352.0    01-14-58.9    01-01-51
 .5   SQZMPFTLYH                                          28 ALMA
 -ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
 INA
 214  9767 F4 72  4 20 2441428 42.0 N  84.6 E 28 332 33.  33
    91.1    352.0  1 14 58.9  1  1 51.5  9767 F4     72/04/20
  2441428    42.0 N    084.6 E    4.3
                     33     91.1     352.0    01-14-58.9    01-01-51
 .5   SQZMPFTLYH                                          28 ALMA
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-ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
INA
215  9802 BM 72  4 28 2441436 31.3 N  85.0 E 26 306 33.  33
  101.6   350.2  2 18 38.6  2  4 43.1  9802 BM     72/04/28
  2441436    31.3 N    085.0 E    4.1
                 33    101.6     350.2    02-18-38.6    02-04-43
.1   ZGGQKTLBYI                                          26 INDI
A - TIBET - SZECHWAN - YUNAN 306 TIBET

215  9802 F1 72  4 28 2441436 31.3 N  85.0 E 26 306 33.  33
  101.6   350.2  2 18 38.6  2  4 43.1  9802 F1     72/04/28
  2441436    31.3 N    085.0 E    4.1
                 33    101.6     350.2    02-18-38.6    02-04-43
.1   ZGGQKTLBYI                                          26 INDI
A - TIBET - SZECHWAN - YUNAN 306 TIBET

215  9802 F2 72  4 28 2441436 31.3 N  85.0 E 26 306 33.  33
  101.6   350.2  2 18 38.6  2  4 43.1  9802 F2     72/04/28
  2441436    31.3 N    085.0 E    4.1
                 33    101.6     350.2    02-18-38.6    02-04-43
.1   ZGGQKTLBYI                                          26 INDI
A - TIBET - SZECHWAN - YUNAN 306 TIBET

215  9802 F3 72  4 28 2441436 31.3 N  85.0 E 26 306 33.  33
  101.6   350.2  2 18 38.6  2  4 43.1  9802 F3     72/04/28
  2441436    31.3 N    085.0 E    4.1
                 33    101.6     350.2    02-18-38.6    02-04-43
.1   ZGGQKTLBYI                                          26 INDI
A - TIBET - SZECHWAN - YUNAN 306 TIBET

215  9802 F4 72  4 28 2441436 31.3 N  85.0 E 26 306 33.  33
  101.6   350.2  2 18 38.6  2  4 43.1  9802 F4     72/04/28
  2441436    31.3 N    085.0 E    4.1
                 33    101.6     350.2    02-18-38.6    02-04-43
.1   ZGGQKTLBYI                                          26 INDI
A - TIBET - SZECHWAN - YUNAN 306 TIBET

216  2010 BM 66 12  7 2439467 43.6 N 149.6 E 19 222 35.  35
   67.9   310.6 17 28 31.0 17 17 28.7  2010 BM     66/12/07
  2439467    43.6 N    149.6 E    6.2
                 35     67.9     310.6    17-28-31.0    17-17-28
.7   DVUZUIMSLQ                                          19 JAPA
N - KURILES - KAMCHATKA       222 KURILE ISLANDS REGION

216  2010 F1 66 12  7 2439467 43.6 N 149.6 E 19 222 35.  35
   67.9   310.6 17 28 31.0 17 17 28.7  2010 BM     66/12/07
  2439467    43.6 N    149.6 E    6.2
                 35     67.9     310.6    17-28-31.0    17-17-28
.7   DVUZUIMSLQ                                          19 JAPA
N - KURILES - KAMCHATKA       222 KURILE ISLANDS REGION

216  2010 F2 66 12  7 2439467 43.6 N 149.6 E 19 222 35.  35
   67.9   310.6 17 28 31.0 17 17 28.7  2010 BM     66/12/07
  2439467    43.6 N    149.6 E    6.2
                 35     67.9     310.6    17-28-31.0    17-17-28
.7   DVUZUIMSLQ                                          19 JAPA
N - KURILES - KAMCHATKA       222 KURILE ISLANDS REGION

216  2010 F3 66 12  7 2439467 43.6 N 149.6 E 19 222 35.  35
   67.9   310.6 17 28 31.0 17 17 28.7  2010 BM     66/12/07
  2439467   43.6 N    149.6 E    6.2
                 35    67.9    310.6   17-28-31.0   17-17-28
.7   DVUZUIMSLQ                                      19 JAPA
N - KURILES - KAMCHATKA       222 KURILE ISLANDS REGION

216  2010 F4 66 12  7 2439467 43.6 N 149.6 E 19 222 35.  35
   67.9   310.6 17 28 31.0 17 17 28.7  2010 BM    66/12/07
  2439467   43.6 N    149.6 E    6.2
                 35    67.9    310.6   17-28-31.0   17-17-28
.7   DVUZUIMSLQ                                      19 JAPA
N - KURILES - KAMCHATKA       222 KURILE ISLANDS REGION

217  2029 BM 67 10  7 2439771 49.1 N 154.4 E 19 221 33.  33
   61.7   312.7  8 38 12.9  8 27 50.5  2029 BM    67/10/07
  2439771   49.1 N    154.4 E    5.8
                 33    61.7    312.7   08-38-12.9   08-27-50
.5   HDMLHROPBQ                                      19 JAPA
N - KURILES - KAMCHATKA       221 KURILE ISLANDS

217  2029 F1 67 10  7 2439771 49.1 N 154.4 E 19 221 33.  33
   61.7   312.7  8 38 12.9  8 27 50.5  2029 BM    67/10/07
  2439771   49.1 N    154.4 E    5.8
                 33    61.7    312.7   08-38-12.9   08-27-50
.5   HDMLHROPBQ                                      19 JAPA
N - KURILES - KAMCHATKA       221 KURILE ISLANDS

217  2029 F2 67 10  7 2439771 49.1 N 154.4 E 19 221 33.  33
   61.7   312.7  8 38 12.9  8 27 50.5  2029 BM    67/10/07
  2439771   49.1 N    154.4 E    5.8
                 33    61.7    312.7   08-38-12.9   08-27-50
.5   HDMLHROPBQ                                      19 JAPA
N - KURILES - KAMCHATKA       221 KURILE ISLANDS

217  2029 F3 67 10  7 2439771 49.1 N 154.4 E 19 221 33.  33
   61.7   312.7  8 38 12.9  8 27 50.5  2029 BM    67/10/07
  2439771   49.1 N    154.4 E    5.8
                 33    61.7    312.7   08-38-12.9   08-27-50
.5   HDMLHROPBQ                                      19 JAPA
N - KURILES - KAMCHATKA       221 KURILE ISLANDS

217  2029 F4 67 10  7 2439771 49.1 N 154.4 E 19 221 33.  33
   61.7   312.7  8 38 12.9  8 27 50.5  2029 BM    67/10/07
  2439771   49.1 N    154.4 E    5.8
                 33    61.7    312.7   08-38-12.9   08-27-50
.5   HDMLHROPBQ                                      19 JAPA
N - KURILES - KAMCHATKA       221 KURILE ISLANDS

218  2030 BM 67 11  1 2439796 47.8 N 152.2 E 19 221 42.  42
   63.7   312.7 16 41 18.8 16 30 43.0  2030 BM    67/11/01
  2439796   47.8 N   152.2 E    5.8
                 42    63.7    312.7   16-41-18.8   16-30-43
.0   MPPRQUCKLS                                      19 JAPA
N - KURILES - KAMCHATKA       221 KURILE ISLANDS

218  2030 F1 67 11  1 2439796 47.8 N 152.2 E 19 221 42.  42
   63.7   312.7 16 41 18.8 16 30 43.0  2030 BM    67/11/01
  2439796   47.8 N   152.2 E    5.8
                 42    63.7    312.7   16-41-18.8   16-30-43
.0   MPPRQUCKLS                                      19 JAPA
N - KURILES - KAMCHATKA       221 KURILE ISLANDS
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218  2030 F2 67 11  1 2439796 47.8 N 152.2 E 19 221 42.  42
   63.7    312.7 16 41 18.8 16 30 43.0  2030 BM     67/11/01
  2439796    47.8 N    152.2 E    5.8
                   42     63.7     312.7    16-41-18.8    16-30-43
.0   MPPRQUCKLS                                            19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS

218  2030 F3 67 11  1 2439796 47.8 N 152.2 E 19 221 42.  42
   63.7    312.7 16 41 18.8 16 30 43.0  2030 BM     67/11/01
  2439796    47.8 N    152.2 E    5.8
                   42     63.7     312.7    16-41-18.8    16-30-43
.0   MPPRQUCKLS                                            19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS

218  2030 F4 67 11  1 2439796 47.8 N 152.2 E 19 221 42.  42
   63.7    312.7 16 41 18.8 16 30 43.0  2030 BM     67/11/01
  2439796    47.8 N    152.2 E    5.8
                   42     63.7     312.7    16-41-18.8    16-30-43
.0   MPPRQUCKLS                                            19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS

219  2031 BM 67 11 30 2439825 41.7 N  21.2 E 31 383 29.  29
   80.3     37.0  7 36  4.8  7 23 50.2  2031 BM     67/11/30
  2439825    41.7 N    021.2 E    6.0
                   29     80.3      37.0    07-36-04.8    07-23-50
.2   JRQPGCBLEY                                            31 WEST
ERN MEDITERRANEAN AREA         383 YUGOSLAVIA

219  2031 F1 67 11 30 2439825 41.7 N  21.2 E 31 383 29.  29
   80.3     37.0  7 36  4.8  7 23 50.2  2031 BM     67/11/30
  2439825    41.7 N    021.2 E    6.0
                   29     80.3      37.0    07-36-04.8    07-23-50
.2   JRQPGCBLEY                                            31 WEST
ERN MEDITERRANEAN AREA         383 YUGOSLAVIA

219  2031 F2 67 11 30 2439825 41.7 N  21.2 E 31 383 29.  29
   80.3     37.0  7 36  4.8  7 23 50.2  2031 BM     67/11/30
  2439825    41.7 N    021.2 E    6.0
                   29     80.3      37.0    07-36-04.8    07-23-50
.2   JRQPGCBLEY                                            31 WEST
ERN MEDITERRANEAN AREA         383 YUGOSLAVIA

219  2031 F3 67 11 30 2439825 41.7 N  21.2 E 31 383 29.  29
   80.3     37.0  7 36  4.8  7 23 50.2  2031 BM     67/11/30
  2439825    41.7 N    021.2 E    6.0
                   29     80.3      37.0    07-36-04.8    07-23-50
.2   JRQPGCBLEY                                            31 WEST
ERN MEDITERRANEAN AREA         383 YUGOSLAVIA

219  2031 F4 67 11 30 2439825 41.7 N  21.2 E 31 383 29.  29
   80.3     37.0  7 36  4.8  7 23 50.2  2031 BM     67/11/30
  2439825    41.7 N    021.2 E    6.0
                   29     80.3      37.0    07-36-04.8    07-23-50
.2   JRQPGCBLEY                                            31 WEST
ERN MEDITERRANEAN AREA         383 YUGOSLAVIA

220  2035 BM 67 12 23 2439848 48.2 N 156.7 E 19 222 33.  33
   61.1    310.8 16 14 50.7 16  4 32.0  2035 BM     67/12/23
  2439848    48.2 N    156.7 E    5.7
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                     33     61.1     310.8    16-14-50.7    16-04-32
 .0    KLWIEQZCOS                                             19 JAPA
 N - KURILES - KAMCHATKA        222 KURILE ISLANDS REGION

 220  2035 F1 67 12 23 2439848 48.2 N 156.7 E 19 222 33.  33
    61.1    310.8 16 14 50.7 16  4 32.0  2035 BM     67/12/23
   2439848    48.2 N    156.7 E    5.7
                     33     61.1     310.8    16-14-50.7    16-04-32
 .0    KLWIEQZCOS                                             19 JAPA
 N - KURILES - KAMCHATKA        222 KURILE ISLANDS REGION

 220  2035 F2 67 12 23 2439848 48.2 N 156.7 E 19 222 33.  33
    61.1    310.8 16 14 50.7 16  4 32.0  2035 BM     67/12/23
   2439848    48.2 N    156.7 E    5.7
                     33     61.1     310.8    16-14-50.7    16-04-32
 .0    KLWIEQZCOS                                             19 JAPA
 N - KURILES - KAMCHATKA        222 KURILE ISLANDS REGION

 220  2035 F3 67 12 23 2439848 48.2 N 156.7 E 19 222 33.  33
    61.1    310.8 16 14 50.7 16  4 32.0  2035 BM     67/12/23
   2439848    48.2 N    156.7 E    5.7
                     33     61.1     310.8    16-14-50.7    16-04-32
 .0    KLWIEQZCOS                                             19 JAPA
 N - KURILES - KAMCHATKA        222 KURILE ISLANDS REGION

 220  2035 F4 67 12 23 2439848 48.2 N 156.7 E 19 222 33.  33
    61.1    310.8 16 14 50.7 16  4 32.0  2035 BM     67/12/23
   2439848    48.2 N    156.7 E    5.7
                     33     61.1     310.8    16-14-50.7    16-04-32
 .0    KLWIEQZCOS                                             19 JAPA
 N - KURILES - KAMCHATKA        222 KURILE ISLANDS REGION

 221  2024 BM 67  5 25 2439636 45.0 N 141.1 E 51 224325. 325
    71.1    316.3 19  2 53.8 18 51 31.1  2024 BM     67/05/25
   2439636    45.0 N    141.1 E    5.2
                    325     71.1     316.3    19-02-53.8    18-51-31
 .1    LKKQBDVCCY                                             51 S RE
 G = 19,20 OR 41 AND D GT 300 224 HOKKAIDO, JAPAN, REGION

 221  2024 F1 67  5 25 2439636 45.0 N 141.1 E 51 224325. 325
    71.1    316.3 19  2 53.8 18 51 31.1  2024 BM     67/05/25
   2439636    45.0 N    141.1 E    5.2
                    325     71.1     316.3    19-02-53.8    18-51-31
 .1    LKKQBDVCCY                                             51 S RE
 G = 19,20 OR 41 AND D GT 300 224 HOKKAIDO, JAPAN, REGION

 221  2024 F2 67  5 25 2439636 45.0 N 141.1 E 51 224325. 325
    71.1    316.3 19  2 53.8 18 51 31.1  2024 BM     67/05/25
   2439636    45.0 N    141.1 E    5.2
                    325     71.1     316.3    19-02-53.8    18-51-31
 .1    LKKQBDVCCY                                             51 S RE
 G = 19,20 OR 41 AND D GT 300 224 HOKKAIDO, JAPAN, REGION

 221  2024 F3 67  5 25 2439636 45.0 N 141.1 E 51 224325. 325
    71.1    316.3 19  2 53.8 18 51 31.1  2024 BM     67/05/25
   2439636    45.0 N    141.1 E    5.2
                    325     71.1     316.3    19-02-53.8    18-51-31
 .1    LKKQBDVCCY                                             51 S RE
 G = 19,20 OR 41 AND D GT 300 224 HOKKAIDO, JAPAN, REGION
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221  2024 F4 67  5 25 2439636 45.0 N 141.1 E 51 224325. 325
   71.1   316.3 19  2 53.8 18 51 31.1  2024 BM    67/05/25
  2439636    45.0 N    141.1 E    5.2
               325    71.1    316.3   19-02-53.8   18-51-31
.1   LKKQBDVCCY                                     51 S RE
G = 19,20 OR 41 AND D GT 300 224 HOKKAIDO, JAPAN, REGION

222  2006 BM 66  8 19 2439357 38.8 N  41.7 E 30 366 26.  26
   90.1    24.4 12 35  9.0 12 22  5.6  2006 BM    66/08/19
  2439357    38.8 N    041.7 E    6.5
                26    90.1     24.4   12-35-09.0   12-22-05
.6   QTETDHLUUV                                     30 MIDD
LE EAST - CRIMEA - BALKANS   366 TURKEY

222  2006 F1 66  8 19 2439357 38.8 N  41.7 E 30 366 26.  26
   90.1    24.4 12 35  9.0 12 22  5.6  2006 BM    66/08/19
  2439357    38.8 N    041.7 E    6.5
                26    90.1     24.4   12-35-09.0   12-22-05
.6   QTETDHLUUV                                     30 MIDD
LE EAST - CRIMEA - BALKANS   366 TURKEY

222  2006 F2 66  8 19 2439357 38.8 N  41.7 E 30 366 26.  26
   90.1    24.4 12 35  9.0 12 22  5.6  2006 BM    66/08/19
  2439357    38.8 N    041.7 E    6.5
                26    90.1     24.4   12-35-09.0   12-22-05
.6   QTETDHLUUV                                     30 MIDD
LE EAST - CRIMEA - BALKANS   366 TURKEY

222  2006 F3 66  8 19 2439357 38.8 N  41.7 E 30 366 26.  26
   90.1    24.4 12 35  9.0 12 22  5.6  2006 BM    66/08/19
  2439357    38.8 N    041.7 E    6.5
                26    90.1     24.4   12-35-09.0   12-22-05
.6   QTETDHLUUV                                     30 MIDD
LE EAST - CRIMEA - BALKANS   366 TURKEY

222  2006 F4 66  8 19 2439357 38.8 N  41.7 E 30 366 26.  26
   90.1    24.4 12 35  9.0 12 22  5.6  2006 BM    66/08/19
  2439357    38.8 N    041.7 E    6.5
                26    90.1     24.4   12-35-09.0   12-22-05
.6   QTETDHLUUV                                     30 MIDD
LE EAST - CRIMEA - BALKANS   366 TURKEY

223  2017 BM 67  3 25 2439575 44.8 N 149.0 E 19 221 33.  33
   67.4   311.9 22 58 40.0 22 47 40.9  2017 BM    67/03/25
  2439575    44.8 N    149.0 E    5.6
                33    67.4    311.9   22-58-40.0   22-47-40
.9   LBVBFJQFDD                                     19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

223  2017 F1 67  3 25 2439575 44.8 N 149.0 E 19 221 33.  33
   67.4   311.9 22 58 40.0 22 47 40.9  2017 BM    67/03/25
  2439575    44.8 N    149.0 E    5.6
                33    67.4    311.9   22-58-40.0   22-47-40
.9   LBVBFJQFDD                                     19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

223  2017 F2 67  3 25 2439575 44.8 N 149.0 E 19 221 33.  33
   67.4   311.9 22 58 40.0 22 47 40.9  2017 BM    67/03/25
  2439575    44.8 N    149.0 E    5.6
                33    67.4    311.9   22-58-40.0   22-47-40
   .9   LBVBFJQFDD                                          19 JAPA
   N - KURILES - KAMCHATKA       221 KURILE ISLANDS

   223  2017 F3 67  3 25 2439575 44.8 N 149.0 E 19 221 33.  33
      67.4   311.9 22 58 40.0 22 47 40.9  2017 BM     67/03/25
     2439575   44.8 N   149.0 E   5.6
                     33    67.4     311.9   22-58-40.0   22-47-40
   .9   LBVBFJQFDD                                          19 JAPA
   N - KURILES - KAMCHATKA       221 KURILE ISLANDS

   223  2017 F4 67  3 25 2439575 44.8 N 149.0 E 19 221 33.  33
      67.4   311.9 22 58 40.0 22 47 40.9  2017 BM     67/03/25
     2439575   44.8 N   149.0 E   5.6
                     33    67.4     311.9   22-58-40.0   22-47-40
   .9   LBVBFJQFDD                                          19 JAPA
   N - KURILES - KAMCHATKA       221 KURILE ISLANDS

   224  2003 BM 66  5 20 2439266 55.3 N 162.3 E 19 218 33.  33
      54.2   315.3 11 53 42.1 11 44 12.9  2003 BM     66/05/20
     2439266   55.3 N   162?3 E   5.4
                     33    54.2     315.3   11-53-42.1   11-44-12
   .9   WZVQPCSVUL                                          19 JAPA
   N - KURILES - KAMCHATKA       218 NEAR EAST COAST OF KAMCHATK
   A
   224  2003 F1 66  5 20 2439266 55.3 N 162.3 E 19 218 33.  33
      54.2   315.3 11 53 42.1 11 44 12.9  2003 BM     66/05/20
     2439266   55.3 N   162.3 E   5.4
                     33    54.2     315.3   11-53-42.1   11-44-12
   .9   WZVQPCSVUL                                          19 JAPA
   N - KURILES - KAMCHATKA       218 NEAR EAST COAST OF KAMCHATK
   A
   224  2003 F2 66  5 20 2439266 55.3 N 162.3 E 19 218 33.  33
      54.2   315.3 11 53 42.1 11 44 12.9  2003 BM     66/05/20
     2439266   55.3 N   162.3 E   5.4
                     33    54.2     315.3   11-53-42.1   11-44-12
   .9   WZVQPCSVUL                                          19 JAPA
   N - KURILES - KAMCHATKA       218 NEAR EAST COAST OF KAMCHATK
   A
   224  2003 F3 66  5 20 2439266 55.3 N 162.3 E 19 218 33.  33
      54.2   315.3 11 53 42.1 11 44 12.9  2003 BM     66/05/20
     2439266   55.3 N   162.3 E   5.4
                     33    54.2     315.3   11-53-42.1   11-44-12
   .9   WZVQPCSVUL                                          19 JAPA
   N - KURILES - KAMCHATKA       218 NEAR EAST COAST OF KAMCHATK
   A
   224  2003 F4 66  5 20 2439266 55.3 N 162.3 E 19 218 33.  33
      54.2   315.3 11 53 42.1 11 44 12.9  2003 BM     66/05/20
     2439266   55.3 N   162.3 E   5.4
                     33    54.2     315.3   11-53-42.1   11-44-12
   .9   WZVQPCSVUL                                          19 JAPA
   N - KURILES - KAMCHATKA       218 NEAR EAST COAST OF KAMCHATK
   A
   225  2012 BM 67  1  5 2439496 32.8 N  73.8 E 47 710 57.  57
     100.8   360.0 10 21 20.0 10  7 28.1  2012 BM     67/01/05
     2439496   32.8 N   073.8 E   6.0
                     57   100.8     360.0   10-21-20.0   10-07-28
   .1   IRLQWBDWYK                                          47 BALU
   CHISTAN                       710 WEST PAKISTAN

   225  2012 F1 67  1  5 2439496 32.8 N  73.8 E 47 710 57.  57
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  100.8   360.0 10 21 20.0 10  7 28.1  2012 BM     67/01/05
  2439496   32.8 N   073.8 E   6.0
                57    100.8    360.0   10-21-20.0   10-07-28
.1   IRLQWBDWYK                                     47 BALU
CHISTAN                      710 WEST PAKISTAN

225  2012 F2 67  1  5 2439496 32.8 N  73.8 E 47 710 57.  57
  100.8   360.0 10 21 20.0 10  7 28.1  2012 BM     67/01/05
  2439496   32.8 N   073.8 E   6.0
                57    100.8    360.0   10-21-20.0   10-07-28
.1   IRLQWBDWYK                                     47 BALU
CHISTAN                      710 WEST PAKISTAN

225  2012 F3 67  1  5 2439496 32.8 N  73.8 E 47 710 57.  57
  100.8   360.0 10 21 20.0 10  7 28.1  2012 BM     67/01/05
  2439496   32.8 N   073.8 E   6.0
                57    100.8    360.0   10-21-20.0   10-07-28
.1   IRLQWBDWYK                                     47 BALU
CHISTAN                      710 WEST PAKISTAN

225  2012 F4 67  1  5 2439496 32.8 N  73.8 E 47 710 57.  57
  100.8   360.0 10 21 20.0 10  7 28.1  2012 BM     67/01/05
  2439496   32.8 N   073.8 E   6.0
                57    100.8    360.0   10-21-20.0   10-07-28
.1   IRLQWBDWYK                                     47 BALU
CHISTAN                      710 WEST PAKISTAN


226  2018 BM 67  4  1 2439582 46.1 N 151.9 E 19 221 40.  40
  65.0   311.4  6  7 46.0  5 57  2.2   018 BM    67/04/01
 2439582   46.1 N   151.9 E   5.7
               40     65.0     311.4   06-07-46.0   05-57-02.
2   VPLQKPGVOR                                     19 JAPAN
 - KURILES - KAMCHATKA      221 KURILE ISLANDS

226  2018 F1 67  4  1 2439582 46.1 N 151.9 E 19 221 40.  40
   65.0   311.4  6  7 46.0  5 57  2.2  2018 BM     67/04/01
  2439582   46.1 N   151.9 E   5.7
                40     65.0     311.4   06-07-46.0   05-57-02
.2   VPLQKPGVOR                                     19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

226  2018 F2 67  4  1 2439582 46.1 N 151.9 E 19 221 40.  40
   65.0   311.4  6  7 46.0  5 57  2.2  2018 BM     67/04/01
  2439582   46.1 N   151.9 E   5.7
                40     65.0     311.4   06-07-46.0   05-57-02
.2   VPLQKPGVOR                                     19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

226  2018 F3 67  4  1 2439582 46.1 N 151.9 E 19 221 40.  40
   65.0   311.4  6  7 46.0  5 57  2.2  2018 BM     67/04/01
  2439582   46.1 N   151.9 E   5.7
                40     65.0     311.4   06-07-46.0   05-57-02
.2   VPLQKPGVOR                                     19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

226  2018 F4 67  4  1 2439582 46.1 N 151.9 E 19 221 40.  40
   65.0   311.4  6  7 46.0  5 57  2.2  2018 BM     67/04/01
  2439582   46.1 N   151.9 E   5.7
                40     65.0     311.4   06-07-46.0   05-57-02
 .2   VPLQKPGVOR                                              19 JAPA
 N - KURILES - KAMCHATKA         221 KURILE ISLANDS

 227  2016 BM 67  1 20 2439511 45.9 N 104.8 E 28 334 33.  33
    83.8    338.8  2  9 42.0  1 57  9.4  2016 BM     67/01/20
  2439511    45.9 N    104.8 E    6.3
                    33     83.8     338.8   02-09-42.0    01-57-09
 .4   ZFYPHQWLJM                                              28 ALMA
 -ATA TO LAKE BAIKAL              334 MONGOLIA

 227  2016 F1 67  1 20 2439511 45.9 N 104.8 E 28 334 33.  33
    83.8    338.8  2  9 42.0  1 57  9.4  2016 BM     67/01/20
  2439511    45.9 N    104.8 E    6.3
                    33     83.8     338.8   02-09-42.0    01-57-09
 .4   ZFYPHQWLJM                                              28 ALMA
 -ATA TO LAKE BAIKAL              334 MONGOLIA

 227  2016 F2 67  1 20 2439511 45.9 N 104.8 E 28 334 33.  33
    83.8    338.8  2  9 42.0  1 57  9.4  2016 BM     67/01/20
  2439511    45.9 N    104.8 E    6.3
                    33     83.8     338.8   02-09-42.0    01-57-09
 .4   ZFYPHQWLJM                                              28 ALMA
 -ATA TO LAKE BAIKAL              334 MONGOLIA

 227  2016 F3 67  1 20 2439511 45.9 N 104.8 E 28 334 33.  33
    83.8    338.8  2  9 42.0  1 57  9.4  2016 BM     67/01/20
  2439511    45.9 N    104.8 E    6.3
                    33     83.8     338.8   02-09-42.0    01-57-09
 .4   ZFYPHQWLJM                                              28 ALMA
 -ATA TO LAKE BAIKAL              334 MONGOLIA

 227  2016 F4 67  1 20 2439511 45.9 N 104.8 E 28 334 33.  33
    83.8    338.8  2  9 42.0  1 57  9.4  2016 BM     67/01/20
  2439511    45.9 N    104.8 E    6.3
                    33     83.8     338.8   02-09-42.0    01-57-09
 .4   ZFYPHQWLJM                                              28 ALMA
 -ATA TO LAKE BAIKAL              334 MONGOLIA

 228  2008 BM 66 11 21 2439451 45.8 N 148.3 E 19 221 33.  33
    67.0    313.0 12 30  2.2 12 19  5.1  2008 BM     66/11/21
  2439451    45.8 N    148.3 E    6.2
                    33     67.0     313.0   12-30-02.2    12-19-05
 .1   LOIBRKQKKC                                              19 JAPA
 N - KURILES - KAMCHATKA         221 KURILE ISLANDS

 228  2008 F1 66 11 21 2439451 45.8 N 148.3 E 19 221 33.  33
    67.0    313.0 12 30  2.2 12 19  5.1  2008 BM     66/11/21
  2439451    45.8 N    148.3 E    6.2
                    33     67.0     313.0   12-30-02.2    12-19-05
 .1   LOIBRKQKKC                                              19 JAPA
 N - KURILES - KAMCHATKA         221 KURILE ISLANDS

 228  2008 F2 66 11 21 2439451 45.8 N 148.3 E 19 221 33.  33
    67.0    313.0 12 30  2.2 12 19  5.1  2008 BM     66/11/21
  2439451    45.8 N    148.3 E    6.2
                    33     67.0     313.0   12-30-02.2    12-19-05
 .1   LOIBRKQKKC                                              19 JAPA
 N - KURILES - KAMCHATKA         221 KURILE ISLANDS

 228  2008 F3 66 11 21 2439451 45.8 N 148.3 E 19 221 33.  33
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     67.0    313.0 12 30  2.2 12 19  5.1  2008 BM    66/11/21
   2439451    45.8 N    148.3 E    6.2
                     33      67.0     313.0    12-30-02.2    12-19-05
  .1   LOIBRKQKKC                                            19 JAPA
  N - KURILES - KAMCHATKA         221 KURILE ISLANDS

  228  2008 F4 66 11 21 2439451 45.8 N 148.3 E 19 221 33.  33
     67.0    313.0 12 30  2.2 12 19  5.1  2008 BM    66/11/21
   2439451    45.8 N    148.3 E    6.2
                     33      67.0     313.0    12-30-02.2    12-19-05
  .1   LOIBRKQKKC                                            19 JAPA
  N - KURILES - KAMCHATKA         221 KURILE ISLANDS

  229  2020 BM 67  4  1 2439582 45.2 N 149.5 E 19 221 33.  33
     66.8    311.9 14 11 16.0 14  0 20.2  2020 BM    67/04/01
   2439582    45.2 N    149.5 E    5.6
                     33      66.8     311.9    14-11-16.0    14-00-20
  .2   KLFQBTBYFZ                                            19 JAPA
  N - KURILES - KAMCHATKA         221 KURILE ISLANDS

  229  2020 F1 67  4  1 2439582 45.2 N 149.5 E 19 221 33.  33
     66.8    311.9 14 11 16.0 14  0 20.2  2020 BM    67/04/01
   2439582    45.2 N    149.5 E    5.6
                     33      66.8     311.9    14-11-16.0    14-00-20
  .2   KLFQBTBYFZ                                            19 JAPA
  N - KURILES - KAMCHATKA         221 KURILE ISLANDS

  229  2020 F2 67  4  1 2439582 45.2 N 149.5 E 19 221 33.  33
     66.8    311.9 14 11 16.0 14  0 20.2  2020 BM    67/04/01
   2439582    45.2 N    149.5 E    5.6
                     33      66.8     311.9    14-11-16.0    14-00-20
  .2   KLFQBTBYFZ                                            19 JAPA
  N - KURILES - KAMCHATKA         221 KURILE ISLANDS

  229  2020 F3 67  4  1 2439582 45.2 N 149.5 E 19 221 33.  33
     66.8    311.9 14 11 16.0 14  0 20.2  2020 BM    67/04/01
   2439582    45.2 N    149.5 E    5.6
                     33      66.8     311.9    14-11-16.0    14-00-20
  .2   KLFQBTBYFZ                                            19 JAPA
  N - KURILES - KAMCHATKA         221 KURILE ISLANDS

  229  2020 F4 67  4  1 2439582 45.2 N 149.5 E 19 221 33.  33
     66.8    311.9 14 11 16.0 14  0 20.2  2020 BM    67/04/01
   2439582    45.2 N    149.5 E    5.6
                     33      66.8     311.9    14-11-16.0    14-00-20
  .2   KLFQBTBYFZ                                            19 JAPA
  N - KURILES - KAMCHATKA         221 KURILE ISLANDS

  230  2023 BM 67  4 27 2439608 41.9 N  84.8 E 27 321 33.  33
     91.2    351.8 23 28 28.0 23 15 20.2  2023 BM    67/04/27
   2439608    41.9 N    084.8 E    5.3
                     33      91.2     351.8    23-28-28.0    23-15-20
  .2   LYJPYPQYEP                                            27 SOUT
  HERN SINKIANG TO KANSU          321 SOUTHERN SINKIANG PROV., CH
  INA
  230  2023 F1 67  4 27 2439608 41.9 N  84.8 E 27 321 33.  33
     91.2    351.8 23 28 28.0 23 15 20.2  2023 BM    67/04/27
   2439608    41.9 N    084.8 E    5.3
                     33      91.2     351.8    23-28-28.0    23-15-20
  .2   LYJPYRQYEP                                            27 SOUT
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HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
230  2023 F2 67  4 27 2439608 41.9 N  84.8 E 27 321 33.  33
   91.2   351.8 23 28 28.0 23 15 20.2  2023 BM    67/04/27
  2439608   41.9 N   08448 E   5.3
                       33     91.2    351.8   23-28-28.0   23-15-20
.2   LYJPYRQYEP                                         27 SOUT
HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
230  2023 F3 67  4 27 2439608 41.9 N  84.8 E 27 321 33.  33
   91.2   351.8 23 28 28.0 23 15 20.2  2023 BM    67/04/27
  2439608   41.9 N   084.8 E   5.3
                       33     91.2    351.8   23-28-28.0   23-15-20
.2   LYJPYRQYEP                                         27 SOUT
HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
230  2023 F4 67  4 27 2439608 41.9 N  84.8 E 27 321 33.  33
   91.2   351.8 23 28 28.0 23 15 20.2  2023 BM    67/04/27
  2439608   41.9 N   084.8 E   5.3
                       33     91.2    351.8   23-28-28.0   23-15-20
.2   LYJPYRQYEP                                         27 SOUT
HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
231  2025 BM 67  5 27 2439638 39.9 N  77.3 E 27 321 33.  33
   93.6   357.3  1 56  3.0  1 42 43.4  2025 BM    67/05/27
  2439638   39.9 N   077.3 E   5.1
                       33     93.6    357.3   01-56-03.0   01-42-43
.4   CLQODPWECK                                         27 SOUT
HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
231  2025 F1 67  5 27 2439638 39.9 N  77.3 E 27 321 33.  33
   93.6   357.3  1 56  3.0  1 42 43.4  2025 BM    67/05/27
  2439638   39.9 N   077.3 E   5.1
                       33     93.6    357.3   01-56-03.0   01-42-43
.4   CLQODPWECK                                         27 SOUT
HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
231  2025 F2 67  5 27 2439638 39.9 N  77.3 E 27 321 33.  33
   93.6   357.3  1 56  3.0  1 42 43.4  2025 BM    67/05/27
  2439638   39.9 N   077.3 E   5.1
                       33     93.6    357.3   01-56-03.0   01-42-43
.4   CLQODPWECK                                         27 SOUT
HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
231  2025 F3 67  5 27 2439638 39.9 N  77.3 E 27 321 33.  33
   93.6   357.3  1 56  3.0  1 42 43.4  2025 BM    67/05/27
  2439638   39.9 N   077.3 E   5.1
                       33     93.6    357.3   01-56-03.0   01-42-43
.4   CLQODPWECK                                         27 SOUT
HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
231  2025 F4 67  5 27 2439638 39.9 N  77.3 E 27 321 33.  33
   93.6   357.3  1 56  3.0  1 42 43.4  2025 BM    67/05/27
  2439638   39.9 N   077.3 E   5.1
                       33     93.6    357.3   01-56-03.0   01-42-43
.4   CLQODPWECK                                         27 SOUT
HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
232  2026 BM 67  5 27 2439638 37.4 N  79.9 E 27 321 35.  35
   96.0   355.1 19 19 21.0 19  5 50.9   026 BM    67/05/27
  2439638   37.4 N   079.9 E   5.4
                    35     96.0     355.1   19-19-21.0   19-05-50
.9   RCLKDQPEHI                                          27 SOUT
HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
232  2026 F1 67  5 27 2439638 37.4 N  79.9 E 27 321 35.  35
   96.0   355.1 19 19 21.0 19  5 50.9  2026 BM    67/05/27
  2439638   37.4 N   079.9 E   5.4
                    35     96.0     355.1   19-19-21.0   19-05-50
.9   RCLKDQPEHI                                          27 SOUT
HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
232  2026 F2 67  5 27 2439638 37.4 N  79.9 E 27 321 35.  35
   96.0   355.1 19 19 21.0 19  5 50.9  2026 BM    67/05/27
  2439638   37.4 N   079.9 E   5.4
                    35     96.0     355.1   19-19-21.0   19-05-50
.9   RCLKDQPEHI                                          27 SOUT
HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
232  2026 F3 67  5 27 2439638 37.4 N  79.9 E 27 321 35.  35
   96.0   355.1 19 19 21.0 19  5 50.9  2026 BM    67/05/27
  2439638   37.4 N   079.9 E   5.4
                    35     96.0     355.1   19-19-21.0   19-05-50
.9   RCLKDQPEHI                                          27 SOUT
HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
232  2026 F4 67  5 27 2439638 37.4 N  79.9 E 27 321 35.  35
   96.0   355.1 19 19 21.0 19  5 50.9  2026 BM    67/05/27
  2439638   37.4 N   079.9 E   5.4
                    35     96.0     355.1   19-19-21.0   19-05-50
.9   RCLKDQPEHI                                          27 SOUT
HERN SINKIANG TO KANSU        321 SOUTHERN SINKIANG PROV., CH
INA
233  2027 BM 67  6  7 2439649 46.8 N 153.6 E 19 221 35.  35
   63.6   311.1 18 26 54.0 18 16 18.6  2027 BM    67/06/07
  2439649   46.8 N   153.6 E   5.6
                    35     63.6     311.1   18-26-54.0   18-16-18
.6   JEQLTUFPKP                                          19 JAPA
N - KURILES - KAMCHATKA       221 KURILE ISLANDS

233  2027 F1 67  6  7 2439649 46.8 N 153.6 E 19 221 35.  35
   63.6   311.1 18 26 54.0 18 16 18.6  2027 BM    67/06/07
  2439649   46.8 N   153.6 E   5.6
                    35     63.6     311.1   18-26-54.0   18-16-18
.6   JEQLTUFPKP                                          19 JAPA
N - KURILES - KAMCHATKA       221 KURILE ISLANDS

233  2027 F2 67  6  7 2439649 46.8 N 153.6 E 19 221 35.  35
   63.6   311.1 18 26 54.0 18 16 18.6  2027 BM    67/06/07
  2439649   46.8 N   153.6 E   5.6
                    35     63.6     311.1   18-26-54.0   18-16-18
.6   JEQLTUFPKP                                          19 JAPA
N - KURILES - KAMCHATKA       221 KURILE ISLANDS

233  2027 F3 67  6  7 2439649 46.8 N 153.6 E 19 221 35.  35
   63.6   311.1 18 26 54.0 18 16 18.6  2027 BM    67/06/07
  2439649   46.8 N   153.6 E   5.6
                    35     63.6     311.1   18-26-54.0   18-16-18
.6   JEQLTUFPKP                                          19 JAPA
N - KURILES - KAMCHATKA       221 KURILE ISLANDS
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233  2027 F4 67  6  7 2439649 46.8 N 153.6 E 19 221 35.  35
   63.6   311.1 18 26 54.0 18 16 18.6  2027 BM     67/06/07
  2439649   46.8 N   153.6 E   5.6
                35     63.6    311.1    18-26-54.0    18-16-18
.6   JEQLTUFPKP                                         19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

234  2028 BM 67 10  5 2439769 44.4 N 149.8 E 19 221 33.  33
   67.2   311.1 16  5 49.1 15 54 50.7  2028 BM     67/10/05
  2439769   44.4 N   149.8 E   5.6
                33     67.2    311.1    16-05-49.1    15-54-50
.7   MHMLOHIKHQ                                         19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

234  2028 F1 67 10  5 2439769 44.4 N 149.8 E 19 221 33.  33
   67.2   311.1 16  5 49.1 15 54 50.7  2028 BM     67/10/05
  2439769   44.4 N   149.8 E   5.6
                33     67.2    311.1    16-05-49.1    15-54-50
.7   MHMLOHIKHQ                                         19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

234  2028 F2 67 10  5 2439769 44.4 N 149.8 E 19 221 33.  33
   67.2   311.1 16  5 49.1 15 54 50.7  2028 BM     67/10/05
  2439769   44.4 N   149.8 E   5.6
                33     67.2    311.1    16-05-49.1    15-54-50
.7   MHMLOHIKHQ                                         19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

234  2028 F3 67 10  5 2439769 44.4 N 149.8 E 19 221 33.  33
   67.2   311.1 16  5 49.1 15 54 50.7  2028 BM     67/10/05
  2439769   44.4 N   149.8 E   5.6
                33     67.2    311.1    16-05-49.1    15-54-50
.7   MHMLOHIKHQ                                         19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

234  2028 F4 67 10  5 2439769 44.4 N 149.8 E 19 221 33.  33
   67.2   311.1 16  5 49.1 15 54 50.7  2028 BM     67/10/05
  2439769   44.4 N   149.8 E   5.6
                33     67.2    311.1    16-05-49.1    15-54-50
.7   MHMLOHIKHQ                                         19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

235  2032 BM 67 12 14 2439839 54.3 N 160.0 E 28 326 33.  33
   55.8   315.1 18 34 53.0 18 25 11.4  2032 BM     67/12/14
  2439839   54.3 N   160.0 E   5.4
                33     55.8    315.1    18-34-53.0    18-25-11
.4   HEQJFTWWSL                                         28 ALMA
-ATA TO LAKE BAIKAL          326 CENTRAL RUSSIA

235  2032 F1 67 12 14 2439839 54.3 N 160.0 E 28 326 33.  33
   55.8   315.1 18 34 53.0 18 25 11.4  2032 BM     67/12/14
  2439839   54.3 N   160.0 E   5.4
                33     55.8    315.1    18-34-53.0    18-25-11
.4   HEQJFTWWSL                                         28 ALMA
-ATA TO LAKE BAIKAL          326 CENTRAL RUSSIA

235  2032 F2 67 12 14 2439839 54.3 N 160.0 E 28 326 33.  33
   55.8   315.1 18 34 53.0 18 25 11.4  2032 BM     67/12/14
  2439839   54.3 N   160.0 E   5.4
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                 33     55.8     315.1   18-34-53.0   18-25-11
.4   HEQJFTWWSL                                          28 ALMA
-ATA TO LAKE BAIKAL              326 CENTRAL RUSSIA

235  2032 F3 67 12 14 2439839 54.3 N 160.0 E 28 326 33.  33
   55.8   315.1 18 34 53.0 18 25 11.4  2032 BM    67/12/14
  2439839   54.3 N    160.0 E   5.4
                 33     55.8     315.1   18-34-53.0   18-25-11
.4   HEQJFTWWSL                                          28 ALMA
-ATA TO LAKE BAIKAL              326 CENTRAL RUSSIA

235  2032 F4 67 12 14 2439839 54.3 N 160.0 E 28 326 33.  33
   55.8   315.1 18 34 53.0 18 25 11.4  2032 BM    67/12/14
  2439839   54.3 N    160.0 E   5.4
                 33     55.8     315.1   18-34-53.0   18-25-11
.4   HEQJFTWWSL                                          28 ALMA
-ATA TO LAKE BAIKAL              326 CENTRAL RUSSIA

236  2033 BM 67 12 16 2439841 51.0 N 157.4 E 19 218 45.  45
   59.0   313.0 21  3 57.0 20 53 52.7  2033 BM    67/12/16
  2439841   51.0 N    157.4 E   5.9
                 45     59.0     313.0   21-03-57.0   20-53-52
.7   ZRTEVDQLWU                                          19 JAPA
N - KURILES - KAMCHATKA          218 NEAR EAST COAST OF KAMCHATK
A
236  2033 F1 67 12 16 2439841 51.0 N 157.4 E 19 218 45.  45
   59.0   313.0 21  3 57.0 20 53 52.7  2033 BM    67/12/16
  2439841   51.0 N    157.4 E   5.9
                 45     59.0     313.0   21-03-57.0   20-53-52
.7   ZRTEVDQLWU                                          19 JAPA
N - KURILES - KAMCHATKA          218 NEAR EAST COAST OF KAMCHATK
A
236  2033 F2 67 12 16 2439841 51.0 N 157.4 E 19 218 45.  45
   59.0   313.0 21  3 57.0 20 53 52.7  2033 BM    67/12/16
  2439841   51.0 N    157.4 E   5.9
                 45     59.0     313.0   21-03-57.0   20-53-52
.7   ZRTEVDQLWU                                          19 JAPA
N - KURILES - KAMCHATKA          218 NEAR EAST COAST OF KAMCHATK
A
236  2033 F3 67 12 16 2439841 51.0 N 157.4 E 19 218 45.  45
   59.0   313.0 21  3 57.0 20 53 52.7  2033 BM    67/12/16
  2439841   51.0 N    157.4 E   5.9
                 45     59.0     313.0   21-03-57.0   20-53-52
.7   ZRTEVDQLWU                                          19 JAPA
N - KURILES - KAMCHATKA          218 NEAR EAST COAST OF KAMCHATK
A
236  2033 F4 67 12 16 2439841 51.0 N 157.4 E 19 218 45.  45
   59.0   313.0 21  3 57.0 20 53 52.7  2033 BM    67/12/16
  2439841   51.0 N    157.4 E   5.9
                 45     59.0     313.0   21-03-57.0   20-53-52
.7   ZRTEVDQLWU                                          19 JAPA
N - KURILES - KAMCHATKA          218 NEAR EAST COAST OF KAMCHATK
A
237  1009 BM 68  1  3 2439859 54.9 N 161.8 E 28 326 33.  33
   54.6   315.0  7 58 33.0  7 49   .6  1009 BM    68/01/03
  2439859   54.9 N    161.8 E   5.0
                 33     54.6     315.0   07-58-33.0   07-49-00
.6   MMLQZSOPPS                                          28 ALMA
-ATA TO LAKE BAIKAL              326 CENTRAL RUSSIA
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237  1009 F1 68  1  3 2439859 54.9 N 161.8 E 28 326 33.  33
   54.6   315.0  7 58 33.0  7 49    .6  1009 BM    68/01/03
  2439859   54.9 N   161.8 E   5.0
                33    54.6    315.0   07-58-33.0   07-49-00
.6   MMLQZSOPPS                                     28 ALMA
-ATA TO LAKE BAIKAL          326 CENTRAL RUSSIA

237  1009 F2 68  1  3 2439859 54.9 N 161.8 E 28 326 33.  33
   54.6   315.0  7 58 33.0  7 49    .6  1009 BM    68/01/03
  2439859   54.9 N   161.8 E   5.0
                33    54.6    315.0   07-58-33.0   07-49-00
.6   MMLQZSOPPS                                     28 ALMA
-ATA TO LAKE BAIKAL          326 CENTRAL RUSSIA

237  1009 F3 68  1  3 2439859 54.9 N 161.8 E 28 326 33.  33
   54.6   315.0  7 58 33.0  7 49    .6  1009 BM    68/01/03
  2439859   54.9 N   161.8 E   5.0
                33    54.6    315.0   07-58-33.0   07-49-00
.6   MMLQZSOPPS                                     28 ALMA
-ATA TO LAKE BAIKAL          326 CENTRAL RUSSIA

237  1009 F4 68  1  3 2439859 54.9 N 161.8 E 28 326 33.  33
   54.6   315.0  7 58 33.0  7 49    .6  1009 BM    68/01/03
  2439859   54.9 N   161.8 E   5.0
                33    54.6    315.0   07-58-33.0   07-49-00
.6   MMLQZSOPPS                                     28 ALMA
-ATA TO LAKE BAIKAL          326 CENTRAL RUSSIA

238  1023 BM 68  1  6 2439862 45.7 N  25.5 E 52 358163. 163
   78.6    32.2 10 35 37.8 10 23 32.7  1023 BM    68/01/06
  2439862   45.7 N   025.5 E   4.8
               163    78.6     32.2   10-35-37.8   10-23-32
.7   MQYCLJDJCT                                     52 G RE
G = 358 AND D GT 70          358 RUMANIA

238  1023 F1 68  1  6 2439862 45.7 N  25.5 E 52 358163. 163
   78.6    32.2 10 35 37.8 10 23 32.7  1023 BM    68/01/06
  2439862   45.7 N   025.5 E   4.8
               163    78.6     32.2   10-35-37.8   10-23-32
.7   MQYCLJDJCT                                     52 G RE
G = 358 AND D GT 70          358 RUMANIA

238  1023 F2 68  1  6 2439862 45.7 N  25.5 E 52 358163. 163
   78.6    32.2 10 35 37.8 10 23 32.7  1023 BM    68/01/06
  2439862   45.7 N   025.5 E   4.8
               163    78.6     32.2   10-35-37.8   10-23-32
.7   MQYCLJDJCT                                     52 G RE
G = 358 AND D GT 70          358 RUMANIA

238  1023 F3 68  1  6 2439862 45.7 N  25.5 E 52 358163. 163
   78.6    32.2 10 35 37.8 10 23 32.7  1023 BM    68/01/06
  2439862   45.7 N   025.5 E   4.8
               163    78.6     32.2   10-35-37.8   10-23-32
.7   MQYCLJDJCT                                     52 G RE
G = 358 AND D GT 70          358 RUMANIA

238  1023 F4 68  1  6 2439862 45.7 N  25.5 E 52 358163. 163
   78.6    32.2 10 35 37.8 10 23 32.7  1023 BM    68/01/06
  2439862   45.7 N   025.5 E   4.8
               163    78.6     32.2   10-35-37.8   10-23-32
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.7   MQYCLJDJCT                                              52 G RE
G = 358 AND D GT 70             358 RUMANIA

239  1029 BM 68  1  9 2439865 50.0 N 155.5 E 19 221 48.  48
   60.6   313.0  5 58  4.7  5 47 49.4  1029 BM     68/01/09
  2439865    50.0 N    155.5 E    4.1
                  48      60.6     313.0    05-58-04.7    05-47-49
.4   IPYKKTKQLP                                              19 JAPA
N - KURILES - KAMCHATKA         221 KURILE ISLANDS

239  1029 F1 68  1  9 2439865 50.0 N 155.5 E 19 221 48.  48
   60.6   313.0  5 58  4.7  5 47 49.4  1029 BM     68/01/09
  2439865    50.0 N    155.5 E    4.1
                  48      60.6     313.0    05-58-04.7    05-47-49
.4   IPYKKTKQLP                                              19 JAPA
N - KURILES - KAMCHATKA         221 KURILE ISLANDS

239  1029 F2 68  1  9 2439865 50.0 N 155.5 E 19 221 48.  48
   60.6   313.0  5 58  4.7  5 47 49.4  1029 BM     68/01/09
  2439865    50.0 N    155.5 E    4.1
                  48      60.6     313.0    05-58-04.7    05-47-49
.4   IPYKKTKQLP                                              19 JAPA
N - KURILES - KAMCHATKA         221 KURILE ISLANDS

239  1029 F3 68  1  9 2439865 50.0 N 155.5 E 19 221 48.  48
   60.6   313.0  5 58  4.7  5 47 49.4  1029 BM     68/01/09
  2439865    50.0 N    155.5 E    4.1
                  48      60.6     313.0    05-58-04.7    05-47-49
.4   IPYKKTKQLP                                              19 JAPA
N - KURILES - KAMCHATKA         221 KURILE ISLANDS

239  1029 F4 68  1  9 2439865 50.0 N 155.5 E 19 221 48.  48
   60.6   313.0  5 58  4.7  5 47 49.4  1029 BM     68/01/09
  2439865    50.0 N    155.5 E    4.1
                  48      60.6     313.0    05-58-04.7    05-47-49
.4   IPYKKTKQLP                                              19 JAPA
N - KURILES - KAMCHATKA         221 KURILE ISLANDS

240  1036 BM 68  1 12 2439868 49.3 N 156.3 E 19 221 54.  54
   60.6   312.0 15 21 16.6 15 11  1.1  1036 BM     68/01/12
  2439868    49.3 N    156.3 E    4.6
                  54      60.6     312.0    15-21-16.6    15-11-01
.1   MLITYQCEMM                                              19 JAPA
N - KURILES - KAMCHATKA         221 KURILE ISLANDS

240  1036 F1 68  1 12 2439868 49.3 N 156.3 E 19 221 54.  54
   60.6   312.0 15 21 16.6 15 11  1.1  1036 BM     68/01/12
  2439868    49.3 N    156.3 E    4.6
                  54      60.6     312.0    15-21-16.6    15-11-01
.1   MLITYQCEMM                                              19 JAPA
N - KURILES - KAMCHATKA         221 KURILE ISLANDS

240  1036 F2 68  1 12 2439868 49.3 N 156.3 E 19 221 54. 554
   60.6   312.0 15 21 16.6 15 11  1.1  1036 BM     68/01/12
  2439868    49.3 N    156.3 E    4.6
                  54      60.6     312.0    15-21-16.6    15-11-01
.1   MLITYQCEMM                                              19 JAPA
N - KURILES - KAMCHATKA         221 KURILE ISLANDS

240  1036 F3 68  1 12 2439868 49.3 N 156.3 E 19 221 54.  54
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    60.6    312.0 15 21 16.6 15 11  1.1  1036 BM     68/01/12
  2439868   49.3 N   156.3 E   4.6
                   54     60.6     312.0    15-21-16.6   15-11-01
 .1   MLITYQCEMM                                          19 JAPA
N - KURILES - KAMCHATKA       221 KURILE ISLANDS

240  1036 F4 68  1 12 2439868 49.3 N 156.3 E 19 221 54.  54
    60.6    312.0 15 21 16.6 15 11  1.1  1036 BM     68/01/12
  2439868   49.3 N   156.3 E   4.6
                   54     60.6     312.0    15-21-16.6   15-11-01
 .1   MLITYQCEMM                                          19 JAPA
N - KURILES - KAMCHATKA       221 KURILE ISLANDS

241  1059 BM 68  1 17 2439873 41.2 N 102.2 E 27 323 33.  33
    88.8    339.0  3 13 11.0  3  0 13.9  1059 BM     68/01/17
  2439873   41.2 N   102.2 E   4.6
                   33     88.8     339.0    03-13-11.0   03-00-13
 .9   UKOWGLQPTE                                          27 SOUT
HERN SINKIANG TO KANSU        323 NORTHERN CHINA

241  1059 F1 68  1 17 2439873 41.2 N 102.2 E 27 323 33.  33
    88.8    339.0  3 13 11.0  3  0 13.9  1059 BM     68/01/17
  2439873   41.2 N   102.2 E   4.6
                   33     88.8     339.0    03-13-11.0   03-00-13
 .9   UKOWGLQPTE                                          27 SOUT
HERN SINKIANG TO KANSU        323 NORTHERN CHINA

241  1059 F2 68  1 17 2439873 41.2 N 102.2 E 27 323 33.  33
    88.8    339.0    13 11.0  3  0 13.9  1059 BM     68/01/17
  2439873   41.2 N   102.2 E   4.6
                   33     88.8     339.0    03-13-11.0   03-00-13
 .9   UKOWGLQPTE                                          27 SOUT
HERN SINKIANG TO KANSU        323 NORTHERN CHINA

241  1059 F3 68  1 17 2439873 41.2 N 102.2 E 27 323 33.  33
    88.8    339.0  3 13 11.0  3  0 13.9  1059 BM     68/01/17
  2439873   41.2 N   102.2 E   4.6
                   33     88.8     339.0    03-13-11.0   03-00-13
 .9   UKOWGLQPTE                                          27 SOUT
HERN SINKIANG TO KANSU        323 NORTHERN CHINA

241  1059 F4 68  1 17 2439873 41.2 N 102.2 E 27 323 33.  33
    88.8    339.0  3 13 11.0  3  0 13.9  1059 BM     68/01/17
  2439873   41.2 N   102.2 E   4.6
                   33     88.8     339.0    03-13-11.0   03-00-13
 .9   UKOWGLQPTE                                          27 SOUT
HERN SINKIANG TO KANSU        323 NORTHERN CHINA

242  1070 BM 68  1 19 2439875 79.6 N 132.0 E 40 654 24.  24
    49.6    348.3  7  8 36.0  6 59 41.3  1070 BM     68/01/19
  2439875   79.6 N   132.0 E   4.5
                   24     49.6     348.3    07-08-36.0   06-59-41
 .3   ZJVKSDJQEL                                          40 ARCT
IC ZONE                       654 EAST OF SEVERNAYA ZEMLYA

242  1070 F1 68  1 19 2439875 79.6 N 132.0 E 40 654 24.  24
    49.6    348.3  7  8 36.0  6 59 41.3  1070 BM     68/01/19
  2439875   79.6 N   132.0 E   4.5
                   24     49.6     348.3    07-08-36.0   06-59-41
 .3   ZJVKSDJQEL                                          40 ARCT
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IC ZONE                            654 EAST OF SEVERNAYA ZEMLYA

242  1070 F2 68  1 19 2439875 79.6 N 132.0 E 40 654 24.  24
   49.6   348.3  7  8 36.0  6 59 41.3  1070 BM     68/01/19
  2439875    79.6 N    132.0 E   4.5
                  24      49.6     348.3   07-08-36.0   06-59-41
.3   ZJVKSDJQEL                                          40 ARCT
IC ZONE                            654 EAST OF SEVERNAYA ZEMLYA

242  1070 F3 68  1 19 2439875 79.6 N 132.0 E 40 654 24.  24
   49.6   348.3  7  8 36.0  6 59 41.3  1070 BM     68/01/19
  2439875    79.6 N    132.0 E   4.5
                  24      49.6     348.3   07-08-36.0   06-59-41
.3   ZJVKSDJQEL                                          40 ARCT
IC ZONE                            654 EAST OF SEVERNAYA ZEMLYA

242  1070 F4 68  1 19 2439875 79.6 N 132.0 E 40 654 24.  24
   49.6   348.3  7  8 36.0  6 59 41.3  1070 BM     68/01/19
  2439875    79.6 N    132.0 E   4.5
                  24      49.6     348.3   07-08-36.0   06-59-41
.3   ZJVKSDJQEL                                          40 ARCT
IC ZONE                            654 EAST OF SEVERNAYA ZEMLYA

243  1073 BM 68  1 19 2439875 44.8 N 148.4 E 19 221 33.  33
   67.7   312.2 16 15 58.0 16  4 57.1  1073 BM     68/01/19
  2439875    44.8 N    148.4 E   4.7
                  33      67.7     312.2   16-15-58.0   16-04-57
.1   BRSFPVFVLQ                                          19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS

243  1073 F1 68  1 19 2439875 44.8 N 148.4 E 19 221 33.  33
   67.7   312.2 16 15 58.0 16  4 57.1  1073 BM     68/01/19
  2439875    44.8 N    148.4 E   4.7
                  33      67.7     312.2   16-15-58.0   16-04-57
.1   BRSFPVFVLQ                                          19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS

243  1073 F2 68  1 19 2439875 44.8 N 148.4 E 19 221 33.  33
   67.7   312.2 16 15 58.0 16  4 57.1  1073 BM     68/01/19
  2439875    44.8 N    148.4 E   4.7
                  33      67.7     312.2   16-15-58.0   16-04-57
.1   BRSFPVFVLQ                                          19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS

243  1073 F3 68  1 19 2439875 44.8 N 148.4 E 19 221 33.  33
   67.7   312.2 16 15 58.0 16  4 57.1  1073 BM     68/01/19
  2439875    44.8 N    148.4 E   4.7
                  33      67.7     312.2   16-15-58.0   16-04-57
.1   BRSFPVFVLQ                                          19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS

243  1073 F4 68  1 19 2439875 44.8 N 148.4 E 19 221 33.  33
   67.7   312.2 16 15 58.0 16  4 57.1  1073 BM     68/01/19
  2439875    44.8 N    148.4 E   4.7
                  33      67.7     312.2   16-15-58.0   16-04-57
.1   BRSFPVFVLQ                                          19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS

244  1088 BM 68  1 22 2439878 36.6 N  47.3 E 29 345 33.  33
   93.7    21.0 20 47 38.4 20 34 18.7  1088 BM     68/01/22
   2439878    36.6 N    047.3 E    4.8
                    33     93.7       21.0   20-47-38.4   20-34-18
 .7   FRUQSJIGYL                                              29 WEST
ERN ASIA                            345 NORTHWESTERN IRAN

244  1088 F1 68  1 22 2439878 36.6 N  47.3 E 29 345 33.  33
   93.7     21.0 20 47 38.4 20 34 18.7  1088 BM     68/01/22
  2439878    36.6 N    047.3 E    4.8
                    33     93.7       21.0   20-47-38.4   20-34-18
 .7   FRUQSJIGYL                                              29 WEST
ERN ASIA                            345 NORTHWESTERN IRAN

244  1088 F2 68  1 22 2439878 36.6 N  47.3 E 29 345 33.  33
   93.7     21.0 20 47 38.4 20 34 18.7  1088 BM     68/01/22
  2439878    36.6 N    047.3 E    4.8
                    33     93.7       21.0   20-47-38.4   20-34-18
 .7   FRUQSJIGYL                                              29 WEST
FRN ASIA                            345 NORTHWESTERN IRAN

244  1088 F3 68  1 22 2439878 36.6 N  47.3 E 29 345 33.  33
   93.7     21.0 20 47 38.4 20 34 18.7  1088 BM     68/01/22
  2439878    36.6 N    047.3 E    4.8
                    33     93.7       21.0   20-47-38.4   20-34-18
 .7   FRUQSJIGYL                                              29 WEST
ERN ASIA                            345 NORTHWESTERN IRAN

244  1088 F4 68  1 22 2439878 36.6 N  47.3 E 29 345 33.  33
   93.7     21.0020 47 38.4 20 34 18.7  1088 BM     68/01/22
  2439878    36.6 N    047.3 E    4.8
                    33     93.7       21.0   20-47-38.4   20-34-18
 .7   FRUQSJIGYL                                              29 WEST
ERN ASIA                            345 NORTHWESTERN IRAN

245  1111 BM 68  1 29 2439885 38.8 N  71.2 E 48 717225. 225
   94.8      2.0  5 13 20.4  4 59 55.6  1111 BM     68/01/29
  2439885    38.8 N    071.2 E    5.7
                   225     94.8        2.0   05-13-20.4   04-59-55
 .6   IQKTGSJTLH                                              48 HIND
U KUSH AND PAMIR                    717 AFGHANISTAN-USSR BORDER REG
ION
245  1111 F1 68  1 29 2439885 38.8 N  71.2 E 48 717225. 225
   94.8      2.0  5 13 20.4  4 59 55.6  1111 BM     68/01/29
  2439885    38.8 N    071.2 E    5.7
                   225     94.8        2.0   05-13-20.4   04-59-55
 .6   IQKTGSJTLH                                              48 HIND
U KUSH AND PAMIR                    717 AFGHANISTAN-USSR BORDER REG
ION
245  1111 F2 68  1 29 2439885 38.8 N  71.2 E 48 717225. 225
   94.8      2.0  5 13 20.4  4 59 55.6  1111 BM     68/01/29
  2439885    38.8 N    071.2 E    5.7
                   225     94.8        2.0   05-13-20.4   04-59-55
 .6   IQKTGSJTLH                                              48 HIND
U KUSH AND PAMIR                    717 AFGHANISTAN-USSR BORDER REG
ION
245  1111 F3 68  1 29 2439885 38.8 N  71.2 E 48 717225. 225
   94.8      2.0  5 13 20.4  4 59 55.6  1111 BM     68/01/29
  2439885    38.8 N    071.2 E    5.7
                   225     94.8        2.0   05-13-20.4   04-59-55
 .6   IQKTGSJTLH                                              48 HIND
U KUSH AND PAMIR                    717 AFGHANISTAN-USSR BORDER REG
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ION
245  1111 F4 68  1 29 2439885 38.8 N  71.2 E 48 717225. 225
   94.8      2.0  5 13 20.4  4 59 55.6  1111 BM     68/01/29
  2439885    38.8 N    071.2 E    5.7
                 225     94.8       2.0   05-13-20.4   04-59-55
.6   IQKTGSJILH                                          48 HIND
U KUSH AND PAMIR                    717 AFGHANISTAN-USSR BORDER REG
ION
246  1113 BM 68  1 29 2439885 43.3 N 145.2 E 19 224 40.  40
   70.3    312.8 10 30 11.0 10 18 53.6  1113 BM     68/01/29
  2439885    43.3 N    145.2 E    6.3
                  40     70.3     312.8   10-30-11.0   10-18-53
.6   TVPLZCKQCD                                          19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

246  1113 F1 68  1 29 2439885 43.3 N 145.2 E 19 224 40.  40
   70.3    312.8 10 30 11.0 10 18 53.6  1113 BM     68/01/29
  2439885    43.3 N    145.2 E    6.3
                  40     70.3     312.8   10-30-11.0   10-18-53
.6   TVPLZCKQCD                                          19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

246  1113 F2 68  1 29 2439885 43.3 N 145.2 E 19 224 40.  40
   70.3    312.8 10 30 11.0 10 18 53.6  1113 BM     68/01/29
  2439885    43.3 N    145.2 E    6.3
                  40     70.3     312.8   10-30-11.0   10-18-53
.6   TVPLZCKQCD                                          19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

246  1113 F3 68  1 29 2439885 43.3 N 145.2 E 19 224 40.  40
   70.3    312.8 10 30 11.0 10 18 53.6  1113 BM     68/01/29
  2439885    43.3 N    145.2 E    6.3
                  40     70.3     312.8   10-30-11.0   10-18-53
.6   TVPLZCKQCD                                          19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

246  1113 F4 68  1 29 2439885 43.3 N 145.2 E 19 224 40.  40
   70.3    312.8 10 30 11.0 10 18 53.6  1113 BM     68/01/29
  2439885    43.3 N    145.2 E    6.3
                  40     70.3     312.8   10-30-11.0   10-18-53
.6   TVPLZCKQCD                                          19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

247  1201 BM 68  2  6 2439893 55.8 N 160.6 E 19 217 33.  33
   54.7    316.4  6 55 10.6  6 45 37.6  1201 BM     68/02/06
  2439893    55.8 N    160.6 E    4.8
                  33     54.7     316.4   06-55-10.6   06-45-37
.6   CWYELQKIOT                                          19 JAPA
N - KURILES - KAMCHATKA        217 KAMCHATKA

247  1201 F1 68  2  6 2439893 55.8 N 160.6 E 19 217 33.  33
   54.7    316.4  6 55 10.6  6 45 37.6  1201 BM     68/02/06
  2439893    55.8 N    160.6 E    4.8
                  33     54.7     316.4   06-55-10.6   06-45-37
.6   CWYELQKIOT                                          19 JAPA
N - KURILES - KAMCHATKA        217 KAMCHATKA

247  1201 F2 68  2  6 2439893 55.8 N 160.6 E 19 217 33.  33
   54.7    316.4  6 55 10.6  6 45 37.6  1201 BM     68/02/06
  2439893    55.8 N    160.6 E    4.8
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                         33     54.7      316.4   06-55-10.6    06-45-37
.6   CWYELQKIOT                                                19 JAPA
N - KURILES - KAMCHATKA          217 KAMCHATKA

247  1201 F3 68  2  6 2439893 55.8 N 160.6 E 19 217 33.  33
   54.7    316.4  6 55 10.6  6 45 37.6  1201 BM     68/02/06
  2439893   55.8 N   160.6 E   4.8
                         33     54.7      316.4   06-55-10.6    06-45-37
.6   CWYELQKIOT                                                19 JAPA
N - KURILES - KAMCHATKA          217 KAMCHATKA

247  1201 F4 68  2  6 2439893 55.8 N 160.6 E 19 217 33.  33
   54.7    316.4  6 55 10.6  6 45 37.6  1201 BM     68/02/06
  2439893   55.8 N   160.6 E   4.8
                         33     54.7      316.4   06-55-10.6    06-45-37
.6   CWYELQKIOT                                                19 JAPA
N - KURILES - KAMCHATKA          217 KAMCHATKA

248  1104 BM 68  1 27 2439883 41.7 N  71.7 E 48 716 15.  15
   91.9       1.6  2 35 10.6  2 21 59.2  1104 BM     68/01/27
  2439883   41.7 N   071.7 E   4.8
                         15     91.9        1.6   02-35-10.6    02-21-59
.2   IDBHHQLYMC                                                48 HIND
U KUSH AND PAMIR                   716 KIRGIZ SSR

248  1104 F1 68  1 27 2439883 41.7 N  71.7 E 48 716 15.  15
   91.9       1.6  2 35 10.6  2 21 59.2  1104 BM     68/01/27
  2439883   41.7 N   071.7 E   4.8
                         15     91.9        1.6   02-35-10.6    02-21-59
.2   IDBHHQLYMC                                                48 HIND
U KUSH AND PAMIR                   716 KIRGIZ SSR

248  1104 F2 68  1 27 2439883 41.7 N  71.7 E 48 716 15.  15
   91.9       1.6  2 35 10.6  2 21 59.2  1104 BM     68/01/27
  2439983   41.7 N   071.7 E   4.8
                         15     91.9        1.6   02-35-10.6    02-21-59
.2   IDBHHQLYMC                                                48 HIND
U KUSH AND PAMIR                   716 KIRGIZ SSR

248  1104 F3 68  1 27 2439883 41.7 N  71.7 E 48 716 15.  15
   91.9       1.6  2 35 10.6  2 21 59.2  1104 BM     68/01/27
  2439883   41.7 N   071.7 E   4.8
                         15     91.9        1.6   02-35-10.6    02-21-59
.2   IDBHHQLYMC                                                48 HIND
U KUSH AND PAMIR                   716 KIRGIZ SSR

248  1104 F4 68  1 27 2439883 41.7 N  71.7 E 48 716 15.  15
   91.9       1.6  2 35 10.6  2 21 59.2  1104 BM     68/01/27
  2439883   41.7 N   071.7 E   4.8
                         15     91.9        1.6   02-35-10.6    02-21-59
.2   IDBHHQLYMC                                                48 HIND
U KUSH AND PAMIR                   716 KIRGIZ SSR

249  1114 BM 68  1 29 2439885 41.8 N 144.9 E 19 224 33.  33
   71.6    311.9 10 53 14.0 10 41 48.5  1114 BM     68/01/29
  2439885   41.8 N   144.9 E   5.2
                         33     71.6      311.9   10-53-14.0    10-41-48
.5   VBHFKSQLYW                                                19 JAPA
N - KURILES - KAMCHATKA          224 HOKKAIDO, JAPAN, REGION
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249  1114 F1 68  1 29 2439885 41.8 N 144.9 E 19 224 33.  33
   71.6   311.9 10 53 14.0 10 41 48.5  1114 BM     68/01/29
  2439885   41.8 N   144.9 E   5.2
                33     71.6     311.9   10-53-14.0   10-41-48
.5   VBHFKSQLYW                                      19 JAPA
N - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

249  1114 F2 68  1 29 2439885 41.8 N 144.9 E 19 224 33.  33
   71.6   311.9 10 53 14.0 10 41 48.5  1114 BM     68/01/29
  2439885   41.8 N   144.9 E   5.2
                33     71.6     311.9   10-53-14.0   10-41-48
.5   VBHFKSQLYW                                      19 JAPA
N - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

249  1114 F3 68  1 29 2439885 41.8 N 144.9 E 19 224 33.  33
   71.6   311.9 10 53 14.0 10 41 48.5  1114 BM     68/01/29
  2439885   41.8 N   144.9 E   5.2
                33     71.6     311.9   10-53-14.0   10-41-48
.5   VBHFKSQLYW                                      19 JAPA
N - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

249  1114 F4 68  1 29 2439885 41.8 N 144.9 E 19 224 33.  33
   71.6   311.9 10 53 14.0 10 41 48.5  1114 BM     68/01/29
  2439885   41.8 N   144.9 E   5.2
                33     71.6     311.9   10-53-14.0   10-41-48
.5   VBHFKSQLYW                                      19 JAPA
N - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

250  1117 BM 68  1 29 2439885 44.3 N 146.7 E 19 221 33.  33
   68.9   312.7 11 47 41.9 11 36 33.7  1117 BM     68/01/29
  2439885   44.3 N   146.7 E   4.6
                33     68.9     312.7   11-47-41.9   11-36-33
.7   QBSGHLDPUG                                      19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

250  1117 F1 68  1 29 2439885 44.3 N 146.7 E 19 221 33.  33
   68.9   312.7 11 47 41.9 11 36 33.7  1117 BM     68/01/29
  2439885   44.3 N   146.7 E   4.6
                33     68.9     312.7   11-47-41.9   11-36-33
.7   QBSGHLDPUG                                      19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

250  1117 F2 68  1 29 2439885 44.3 N 146.7 E 19 221 33.  33
   68.9   312.7 11 47 41.9 11 36 33.7  1117 BM     68/01/29
  2439885   44.3 N   146.7 E   4.6
                33     68.9     312.7   11-47-41.9   11-36-33
.7   QBSGHLDPUG                                      19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

250  1117 F3 68  1 29 2439885 44.3 N 146.7 E 19 221 33.  33
   68.9   312.7 11 47 41.9 11 36 33.7  1117 BM     68/01/29
  2439885   44.3 N   146.7 E   4.6
                33     68.9     312.7   11-47-41.9   11-36-33
.7   QBSGHLDPUG                                      19 JAPA
N - KURILES - KAMCHATKA      221 KURILE ISLANDS

250  1117 F4 68  1 29 2439885 44.3 N 146.7 E 19 221 33.  33
   68.9   312.7 11 47 41.9 11 36 33.7  1117 BM     68/01/29
  2439885   44.3 N   146.7 E   4.6
                33     68.9     312.7   11-47-41.9   11-36-33
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.7   QBSGHLDPUG                                          19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS


251  1118 BM 68  1 29 2439885 44.0 N 146.2 E 19 221 33.  33
  69.3   312.8 11 55  4.0 11 43 52.9  1118 BM    68/01/29
 2439885    44.0 N    146.2 E    5.5
             33    69.3    312.8   11-55-04.0   11-43-52.
9   OEHC7SHLDQ                                          19 JAPAN
 - KURILES - KAMCHATKA        221 KURILE ISLANDS

251  1118 F1 68  1 29 2439885 44.0 N 146.2 E 19 221 33.  33
   69.3   312.8 11 55  4.0 11 43 52.9  1118 BM    68/01/29
  2439885    44.0 N    146.2 E    5.5
              33    69.3    312.8   11-55-04.0   11-43-52
.9   OEHCZSHLDQ                                          19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS

251  1118 F2 68  1 29 2439885 44.0 N 146.2 E 19 221 33.  33
   69.3   312.8 11 55  4.0 11 43 52.9  1118 BM    68/01/29
  2439885    44.0 N    146.2 E    5.5
              33    69.3    312.8   11-55-04.0   11-43-52
.9   OEHCZSHLDQ                                          19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS

251  1118 F3 68  1 29 2439885 44.0 N 146.2 E 19 221 33.  33
   69.3   312.8 11 55  4.0 11 43 52.9  1118 BM    68/01/29
  2439885    44.0 N    146.2 E    5.5
              33    69.3    312.8   11-55-04.0   11-43-52
.9   OEHCZSHLDQ                                          19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS

251  1118 F4 68  1 29 2439885 44.0 N 146.2 E 19 221 33.  33
   69.3   312.8 11 55  4.0 11 43 52.9  1118 BM    68/01/29
  2439885    44.0 N    146.2 E    5.5
              33    69.3    312.8   11-55-04.0   11-43-52
.9   OEHCZSHLDQ                                          19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS

252  1119 BM 68  1 29 2439885 42.6 N 147.3 E 19 225 33.  33
   69.8   311.1 12 18 14.0 12  7   .3  1119 BM    68/01/29
  2439885    42.6 N    147.3 E    4.9
              33    69.8    311.1   12-18-14.0   12-07-00
.3   RICIIVMQRL                                          19 JAPA
N - KURILES - KAMCHATKA        225 OFF COAST OF HOKKAIDO, JAPA
N
252  1119 F1 68  1 29 2439885 42.6 N 147.3 E 19 225 33.  33
   69.8   311.1 12 18 14.0 12  7   .3  1119 BM    68/01/29
  2439885    42.6 N    147.3 E    4.9
              33    69.8    311.1   12-18-14.0   12-07-00
.3   RICIIVMQRL                                          19 JAPA
N - KURILES - KAMCHATKA        225 OFF COAST OF HOKKAIDO, JAPA
N
252  1119 F2 68  1 29 2439885 42.6 N 147.3 E 19 225 33.  33
   69.8   311.1 12 19 14.0 12  7   .3  1119 BM    68/01/29
  2439885    42.6 N    147.3 E    4.9
              33    69.8    311.1   12-18-14.0   12-07-00
.3   RICIIVMQRL                                          19 JAPA
N - KURILES - KAMCHATKA        225 OFF COAST OF HOKKAIDO, JAPA
N
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252  1119 F3 68  1 29 2439885 42.6 N 147.3 E 19 225 33.  33
   69.8   311.1 12 18 14.0 12  7   .3  1119 BM    68/01/29
  2439885   42.6 N   147.3 E   4.9
                 33    69.8    311.1   12-18-14.0   12-07-00
.3   RICIIVMORL                                   19 JAPA
N - KURILES - KAMCHATKA      225 OFF COAST OF HOKKAIDO, JAPA
N
252  1119 F4 68  1 29 2439885 42.6 N 147.3 E 19 225 33.  33
   69.8   311.1 12 18 14.0 12  7   .3  1119 BM    68/01/29
  2439885   42.6 N   147.3 E   4.9
                 33    69.8    311.1   12-18-14.0   12-07-00
.3   RICIIVMORL                                   19 JAPA
N - KURILES - KAMCHATKA      225 OFF COAST OF HOKKAIDO, JAPA
N
253  1132 BM 68  1 29 2439885 43.3 N 145.2 E 19 224 33.  33
   70.3   312.8 17 25 11.0 17 13 53.6  1132 BM    68/01/29
  2439885   43.3 N   145.2 E   4.7
                 33    70.3    312.8   17-25-11.0   17-13-53
.6   DQURJKRUJL                                   19 JAPA
N - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

253  1132 F1 68  1 29 2439885 43.3 N 145.2 E 19 224 33.  33
   70.3   312.8 17 25 11.0 17 13 53.6  1132 BM    68/01/29
  2439885   43.3 N   145.2 E   4.7
                 33    70.3    312.8   17-25-11.0   17-13-53
.6   DQURJKRUJL                                   19 JAPA
N - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

253  1132 F2 68  1 29 2439885 43.3 N 145.2 E 19 224 33.  33
   70.3   312.8 17 25 11.0 17 13 53.6  1132 BM    68/01/29
  2439885   43.3 N   145.2 E   4.7
                 33    70.3    312.8   17-25-11.0   17-13-53
.6   DQURJKRUJL                                   19 JAPA
N - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

253  1132 F3 68  1 29 2439885 43.3 N 145.2 E 19 224 33.  33
   70.3   312.8 17 25 11.0 17 13 53.6  1132 BM    68/01/29
  2439885   43.3 N   145.2 E   4.7
                 33    70.3    312.8   17-25-11.0   17-13-53
.6   DQURJKRUJL                                   19 JAPA
N - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

253  1132 F4 68  1 29 2439885 43.3 N 145.2 E 19 224 33.  33
   70.3   312.8 17 25 11.0 17 13 53.6  1132 BM    68/01/29
  2439885   43.3 N   145.2 E   4.7
                 33    70.3    312.8   17-25-11.0   17-13-53
.6   DQURJKRUJL                                   19 JAPA
N - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

254  1131 BM 68  1 29 2439885 42.7 N 145.8 E 19 224 33.  33
   70.5   312.0 16 53 55.0 16 42 36.6  1131 BM    68/01/29
  2439885   42.7 N   145.8 E   6.0
                 33    70.5    312.0   16-53-55.0   16-42-36
.6   EGOOMLTPDW                                   19 JAPA
N - KURILES - KAMCHATKA      224 HOKKAIDO, JAPAN, REGION

254  1131 F1 68  1 29 2439885 42.7 N 145.8 E 19 224 33.  33
   70.5   312.0 16 53 55.0 16 42 36.6  1131 BM    68/01/29
  2439885   42.7 N   145.8 E   6.0
                 33    70.5    312.0   16-53-55.0   16-42-36
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.6   EGOQMLTRDW                                           19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

254  1131 F2 68  1 29 2439885 42.7 N 145.8 E 19 224 33.  33
   70.5    312.0 16 53 55.0 16 42 36.6  1131 BM     68/01/29
  2439885    42.7 N    145.8 E    6.0
                     33     70.5     312.0    16-53-55.0    16-42-36
.6   EGOQMLTRDW                                           19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

254  1131 F3 68  1 29 2439885 42.7 N 145.8 E 19 224 33.  33
   70.5    312.0 16 53 55.0 16 42 36.6  1131 BM     68/01/29
  2439885    42.7 N    145.8 E    6.0
                     33     70.5     312.0    16-53-55.0    16-42-36
.6   EGOQMLTRDW                                           19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

254  1131 F4 68  1 29 2439885 42.7 N 145.8 E 19 224 33.  33
   70.5    312.0 16 53 55.0 16 42 36.6  1131 BM     68/01/29
  2439885    42.7 N    145.8 E    6.0
                     33     70.5     312.0    16-53-55.0    16-42-36
.6   EGOQMLTRDW                                           19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

255  1130 BM 68  1 29 2439885 44.3 N 145.4 E 19 224 33.  33
   69.5    313.4 16 15 19.0 16  4  6.8  1130 BM     68/01/29
  2439885    44.3 N    145.4 E    4.6
                     33     69.5     313.4    16-15-19.0    16-04-06
.8   VCKBKJZQLV                                           19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

255  1130 F1 68  1 29 2439885 44.3 N 145.4 E 19 224 33.  33
   69.5    313.4 16 15 19.0 16  4  6.8  1130 BM     68/01/29
  2439885    44.3 N    145.4 E    4.6
                     33     69.5     313.4    16-15-19.0    16-04-06
.8   VCKBKJZQLV                                           19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

255  1130 F2 68  1 29 2439885 44.3 N 145.4 E 19 224 33.  33
   69.5    313.4 16 15 19.0 16  4  6.8  1130 BM     68/01/29
  2439885    44.3 N    145.4 E    4.6
                     33     69.5     313.4    16-15-19.0    16-04-06
.8   VCKBKJZQLV                                           19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

255  1130 F3 68  1 29 2439885 44.3 N 145.4 E 19 224 33.  33
   69.5    313.4 16 15 19.0 16  4  6.8  1130 BM     68/01/29
  2439885    44.3 N    145.4 E    4.6
                     33     69.5     313.4    16-15-19.0    16-04-06
.8   VCKBKJZQLV                                           19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

255  1130 F4 68  1 29 2439885 44.3 N 145.4 E 19 224 33.  33
   69.5    313.4 16 15 19.0 16  4  6.8  1130 BM     68/01/29
  2439885    44.3 N    145.4 E    4.6
                     33     69.5     313.4    16-15-19.0    16-04-06
.8   VCKBKJZQLV                                           19 JAPA
N - KURILES - KAMCHATKA        224 HOKKAIDO, JAPAN, REGION

256  1159 BM 68  1 30 2439886 36.0 N  70.6 E 53 718205. 205
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     97.6       2.6  8 30 45.1  8 17  7.9  1159 BM     68/01/30
   2439886    36.0 N    070.6 E    5.4
                     205     97.6       2.6   08-30-45.1    08-17-07
 .9   IZLQRIBCEF                                          53 G RE
 G = 718 AND D GT 70          718 HINDU KUSH REGION

 256  1159 F1 68  1 30 2439886 36.0 N  70.6 E 53 718205. 205
     97.6       2.6  8 30 45.1  8 17  7.9  1159 BM     68/01/30
   2439886    36.0 N    070.6 E    5.4
                     205     97.6       2.6   08-30-45.1    08-17-07
 .9   IZLQRIBCEF                                          53 G RE
 G = 718 AND D GT 70          718 HINDU KUSH REGION

 256  1159 F2 68  1 30 2439886 36.0 N  70.6 E 53 718205. 205
     97.6       2.6  8 30 45.1  8 17  7.9  1159 BM     68/01/30
   2439886    36.0 N    070.6 E    5.4
                     205     97.6       2.6   08-30-45.1    08-17-07
 .9   IZLQRIBCEF                                          53 G RE
 G = 718 AND D GT 70          718 HINDU KUSH REGION

 256  1159 F3 68  1 30 2439886 36.0 N  70.6 E 53 718205. 205
     97.6       2.6  8 30 45.1  8 17  7.9  1159 BM     68/01/30
   2439886    36.0 N    070.6 E    5.4
                     205     97.6       2.6   08-30-45.1    08-17-07
 .9   IZLQRIBCEF                                          53 G RE
 G = 718 AND D GT 70          718 HINDU KUSH REGION

 256  1159 F4 68  1 30 2439886 36.0 N  70.6 E 53 718205. 205
     97.6       2.6  8 30 45.1  8 17  7.9  1159 BM     68/01/30
   2439886    36.0 N    070.6 E    5.4
                     205     97.6       2.6   08-30-45.1    08-17-07
 .9   IZLQRIBCEF                                          53 G RE
 G = 718 AND D GT 70          718 HINDU KUSH REGION

 257  1141 BM 68  1 30 2439886 44.1 N 147.7 E 19 221 33.  33
     68.5     312.0  1 41 23.0  1 30 17.0  1141 BM     68/01/30
   2439886     44.1 N    147.7 E    5.0
                      33     68.5     312.0   01-41-23.0    01-30-17
 .0   RZBILQFSSS                                          19 JAPA
 N - KURILES - KAMCHATKA      221 KURILE ISLANDS

 257  1141 F1 68  1 30 2439886 44.1 N 147.7 E 19 221 33.  33
     68.5     312.0  1 41 23.0  1 30 17.0  1141 BM     68/01/30
   2439886     44.1 N    147.7 E    5.0
                      33     68.5     312.0   01-41-23.0    01-30-17
 .0   RZBILQFSSS                                          19 JAPA
 N - KURILES - KAMCHATKA      221 KURILE ISLANDS

 257  1141 F2 68  1 30 2439886 44.1 N 147.7 E 19 221 33.  33
     68.5     312.0  1 41 23.0  1 30 17.0  1141 BM     68//1/30
   2439886     44.1 N    147.7 E    5.0
                      33     68.5     312.0   01-41-23.0    01-30-17
 .0   RZBILQFSSS                                          19 JAPA
 N - KURILES - KAMCHATKA      221 KURILE ISLANDS

 257  1141 F3 68  1 30 2439886 44.1 N 147.7 E 19 221 33.  33
     68.5     312.0  1 41 23.0  1 30 17.0  1141 BM     68/01/30
   2439886     44.1 N    147.7 E    5.0
                      33     68.5     312.0   01-41-23.0    01-30-17
 .0   RZBILQFSSS                                          19 JAPA
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N - KURILES - KAMCHATKA        221 KURILE ISLANDS

257  1141 F4 68  1 30 2439886 44.1 N 147.7 E 19 221 33.  33
   68.5   312.0  1 41 23.0  1 30 17.0  1141 BM    68/01/30
  2439886   44.1 N   147.7 E   5.0
                   33     68.5     312.0   01-41-23.0   01-30-17
.0   RZBILQFSSS                                        19 JAPA
N - KURILES - KAMCHATKA        221 KURILE ISLANDS

258  1205 BM 68  2  6 2439893 55.8 N 160.6 E 19 217 33.  33
   54.7   316.4 10 40   .3 10 30 27.3  1205 BM    68/02/06
  2439893   55.8 N   160.6 E   4.2
                   33     54.7     316.4   10-40-00.3   10-30-27
.3   MGDKGCLQRZ                                        19 JAPA
N - KURILES - KAMCHATKA        217 KAMCHATKA

258  1205 F1 68  2  6 2439893 55.8 N 160.6 E 19 217 33.  33
   54.7   316.4 10 40   .3 10 30 27.3  1205 BM    68/02/06
  2439893   55.8 N   160.6 E   4.2
                   33     54.7     316.4   10-40-00.3   10-30-27
.3   MGDKGCLQRZ                                        19 JAPA
N - KURILES - KAMCHATKA        217 KAMCHATKA

258  1205 F2 68  2  6 2439893 55.8 N 160.6 E 19 217 33.  33
   54.7   316.4 10 40   .3 10 30 27.3  1205 BM    68/02/06
  2439893   55.8 N   160.6 E   4.2
                   33     54.7     316.4   10-40-00.3   10-30-27
.3   MGDKGCLQRZ                                        19 JAPA
N - KURILES - KAMCHATKA        217 KAMCHATKA

258  1205 F3 68  2  6 2439893 55.8 N 160.6 E 19 217 33.  33
   54.7   316.4 10 40   .3 10 30 27.3  1205 BM    68/02/06
  2439893   55.8 N   160.6 E   4.2
                   33     54.7     316.4   10-40-00.3   10-30-27
.3   MGDKGCLQRZ                                        19 JAPA
N - KURILES - KAMCHATKA        217 KAMCHATKA

258  1205 F4 68  2  6 2439893 55.8 N 160.6 E 19 217 33.  33
   54.7   316.4 10 40   .3 10 30 27.3  1205 BM    68/02/06
  2439893   55.8 N   160.6 E   4.2
                   33     54.7     316.4   10-40-00.3   10-30-27
.3   MGDKGCLQRZ                                        19 JAPA
N - KURILES - KAMCHATKA        217 KAMCHATKA

259  1207 BM 68  2  7 2439894 43.3 N  85.8 E 28 332 33.  33
   89.7   351.3  1 35 56.2  1 22 54.9  1207 BM    68/02/07
  2439894   43.3 N   085.8 E   4.2
                   33     89.7     351.3   01-35-56.2   01-22-54
.9   KIJOILIQZR                                        28 ALMA
-ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
INA
259  1207 F1 68  2  7 2439894 43.3 N  85.8 E 28 332 33.  33
   89.7   351.3  1 35 56.2  1 22 54.9  1207 BM    68/02/07
  2439894   43.3 N   085.8 E   4.2
                   33     89.7     351.3   01-35-56.2   01-22-54
.9   KIJOILIQZR                                        28 ALMA
-ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
INA
259  1207 F2 68  2  7 2439894 43.3 N  85.8 E 28 332 33.  33
   89.7   351.3  1 35 56.2  1 22 54.9  1207 BM    68/02/07
  2439894    43.3 N    085.8 E    4.2
                  33      89.7     351.3    01-35-56.2    01-22-54
.9   KIJOILIQZR                                            28 ALMA
-ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
INA
259  1207 F3 68  2  7 2439894 43.3 N  85.8 E 28 332 33.  33
   89.7   351.3  1 35 56.2  1 22 54.9  1207 BM    68/02/07
  2439894    43.3 N    085.8 E    4.2
                  33      89.7     351.3    01-35-56.2    01-22-54
.9   KIJOILIQZR                                            28 ALMA
-ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
INA
259  1207 F4 68  2  7 2439894 43.3 N  85.8 E 28 332 33.  33
   89.7   351.3  1 35 56.2  1 22 54.9  1207 BM    68/02/07
  2439894    43.3 N    085.8 E    4.2
                  33      89.7     351.3    01-35-56.2    01-22-54
.9   KIJOILIQZR                                            28 ALMA
-ATA TO LAKE BAIKAL            332 NORTHERN SINKIANG PROV., CH
INA
260  1209 BM 68  2  7 2439894 36.5 N  28.3 E 30 369158. 158
   87.6    35.0 22 34 48.9 22 21 57.8  1209 BM    68/02/07
  2439894    36.5 N    028.3 E    5.5
                 158      87.6      35.0    22-34-48.9    22-21-57
.8   QMPYLYVDPP                                            30 MIDD
LE EAST - CRIMEA - BALKANS   369 DODECANESE ISLANDS

260  1209 F1 68  2  7 2439894 36.5 N  28.3 E 30 369158. 158
   87.6    35.0 22 34 48.9 22 21 57.8  1209 BM    68/02/07
  2439894    36.5 N    028.3 E    5.5
                 158      87.6      35.0    22-34-48.9    22-21-57
.8   QMPYLYVDPP                                            30 MIDD
LE EAST - CRIMEA - BALKANS   369 DODECANESE ISLANDS

260  1209 F2 68  2  7 2439894 36.5 N  28.3 E 30 369158. 158
   87.6    35.0 22 34 48.9 22 21 57.8  1209 BM    68/02/07
  2439894    36.5 N    028.3 E    5.5
                 158      87.6      35.0    22-34-48.9    22-21-57
.8   QMPYLYVDPP                                            30 MIDD
LE EAST - CRIMEA - BALKANS   369 DODECANESE ISLANDS

260  1209 F3 68  2  7 2439894 36.5 N  28.3 E 30 369158. 158
   87.6    35.0 22 34 48.9 22 21 57.8  1209 BM    68/02/07
  2439894    36.5 N    028.3 E    5.5
                 158      87.6      35.0    22-34-48.9    22-21-57
.8   QMPYLYVDPP                                            30 MIDD
LE EAST - CRIMEA - BALKANS   369 DODECANESE ISLANDS

260  1209 F4 68  2  7 2439894 36.5 N  28.3 E 30 369158. 158
   87.6    35.0 22 34 48.9 22 21 57.8  1209 BM    68/02/07
  2439894    36.5 N    028.3 E    5.5
                 158      87.6      35.0    22-34-48.9    22-21-57
.8   QMPYLYVDPP                                            30 MIDD
LE EAST - CRIMEA - BALKANS   369 DODECANESE ISLANDS

261  1250 BM 68  3 17 2439933 78.0 N 140.0 E 42 667 30.  30
   49.3   345.4 17 55 52.1 17 46 59.6  1250 BM    68/03/17
  2439933    78.0 N    140.0 E    4.4
                  30      49.3     345.4    17-55-52.1    17-46-59
.6   MSUJZVTSQL                                            42 NORT
HEASTERN ASIA, NORTHERN ALAS 667 NORTH OF NEW SIBERIAN ISLAN
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DS
261  1250 F1 68  3 17 2439933 78.0 N 140.0 E 42 667 30.  30
   49.3   345.4 17 55 52.1 17 46 59.6  1250 BM    68/03/17
  2439933   78.0 N   140.0 E   4.4
                  30     49.3     345.4    17-55-52.1    17-46-59
.6   MSUJZVTSQL                                      42 NORT
HEASTERN ASIA, NORTHERN ALAS 667 NORTH OF NEW SIBERIAN ISLAN
DS
261  1250 F2 68  3 17 2439933 78.0 N 140.0 E 42 667 30.  30
   49.3   345.4 17 55 52.1 17 46 59.6  1250 BM    68/03/17
  2439933   78.0 N   140.0 E   4.4
                  30     49.3     345.4    17-55-52.1    17-46-59
.6   MSUJZVTSQL                                      42 NORT
HEASTERN ASIA, NORTHERN ALAS 667 NORTH OF NEW SIBERIAN ISLAN
DS
261  1250 F3 68  3 17 2439933 78.0 N 140.0 E 42 667 30.  30
   49.3   345.4 17 55 52.1 17 46 59.6  1250 BM    68/03/17
  2439933   78.0 N   140.0 E   4.4
                  30     49.3     345.4    17-55-52.1    17-46-59
.6   MSUJZVTSQL                                      42 NORT
HEASTERN ASIA, NORTHERN ALAS 667 NORTH OF NEW SIBERIAN ISLAN
DS
261  1250 F4 68  3 17 2439933 78.0 N 140.0 E 42 667 30.  30
   49.3   345.4 17 55 52.1 17 46 59.6  1250 BM    68/03/17
  2439933   78.0 N   140.0 E   4.4
                  30     49.3     345.4    17-55-52.1    17-46-59
.6   MSUJZVTSQL                                      42 NORT
HEASTERN ASIA, NORTHERN ALAS 667 NORTH OF NEW SIBERIAN ISLAN
DS
262  1224 BM 68  2 22 2439909 41.0 N  20.4 E 31 391 33.  33
   80.6     37.9 12 46 22.9 12 34  7.1  1224 BM    68/02/22
  2439909   41.0 N   020.4 E   4.1
                  33     80.6     37.9    12-46-22.9    12-34-07
.1   MVMHMRQWLJ                                      31 WEST
ERN MEDITERRANEAN AREA        391 ALBANIA

262  1224 F1 68  2 22 2439909 41.0 N  20.4 E 31 391 33.  33
   80.6     37.9 12 46 22.9 12 34  7.1  1224 BM    68/02/22
  2439909   41.0 N   020.4 E   4.1
                  33     80.6     37.9    12-46-22.9    12-34-07
.1   MVMHMRQWLJ                                      31 WEST
ERN MEDITERRANEAN AREA        391 ALBANIA

262  1224 F2 68  2 22 2439909 41.0 N  20.4 E 31 391 33.  33
   80.6     37.9 12 46 22.9 12 34  7.1  1224 BM    68/02/22
  2439909   41.0 N   020.4 E   4.1
                  33     80.6     37.9    12-46-22.9    12-34-07
.1   MVMHMRQWLJ                                      31 WEST
ERN MEDITERRANEAN AREA        391 ALBANIA

262  1224 F3 68  2 22 2439909 41.0 N  20.4 E 31 391 33.  33
   80.6     37.9 12 46 22.9 12 34  7.1  1224 BM    68/02/22
  2439909   41.0 N   020.4 E   4.1
                  33     80.6     37.9    12-46-22.9    12-34-07
.1   MVMHMRQWLJ                                      31 WEST
ERN MEDITERRANEAN AREA        391 ALBANIA

262  1224 F4 68  2 22 2439909 41.0 N  20.4 E 31 391 33.  33
   80.6     37.9 12 46 22.9 12 34  7.1  1224 BM    68/02/22
  2439909   41.0 N   020.4 E   4.1
```

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                   33     80.6      37.9   12-46-22.9    12-34-07
.1    MVMHMRQWLJ                                          31 WEST
ERN MEDITERRANEAN AREA         391 ALBANIA

263  1223 BM 68  2 22 2439909 40.7 N  20.6 E 31 392 33.  33
   80.9     38.0 12 34 58.2 12 22 40.7  1223 BM     68/02/22
  2439909    40.7 N    020.6 E    4.4
                   33     80.9      38.0   12-34-58.2    12-22-40
.7    LKEZQEBVBJ                                          31 WEST
ERN MEDITERRANEAN AREA         392 GREECE-ALBANIA BORDER REGIO
N
263  1223 F1 68  2 22 2439909 40.7 N  20.6 E 31 392 33.  33
   80.9     38.0 12 34 58.2 12 22 40.7  1223 BM     68/02/22
  2439909    40.7 N    020.6 E    4.4
                   33     80.9      38.0   12-34-58.2    12-22-40
.7    LKEZQEBVBJ                                          31 WEST
ERN MEDITERRANEAN AREA         392 GREECE-ALBANIA BORDER REGIO
N
263  1223 F2 68  2 22 2439909 40.7 N  20.6 E 31 392 33.  33
   80.9     38.0 12 34 58.2 12 22 40.7  1223 BM     68/02/22
  2439909    40.7 N    020.6 E    4.4
                   33     80.9      38.0   12-34-58.2    12-22-40
.7    LKEZQEBVBJ                                          31 WEST
ERN MEDITERRANEAN AREA         392 GREECE-ALBANIA BORDER REGIO
N
263  1223 F3 68  2 22 2439909 40.7 N  20.6 E 31 392 33.  33
   80.9     38.0 12 34 58.2 12 22 40.7  1223 BM     68/02/22
  2439909    40.7 N    020.6 E    4.4
                   33     80.9      38.0   12-34-58.2    12-22-40
.7    LKEZQEBVBJ                                          31 WEST
ERN MEDITERRANEAN AREA         392 GREECE-ALBANIA BORDER REGIO
N
263  1223 F4 68  2 22 2439909 40.7 N  20.6 E 31 392 33.  33
   80.9     38.0 12 34 58.2 12 22 40.7  1223 BM     68/02/22
  2439909    40.7 N    020.6 E    4.4
                   33     80.9      38.0   12-34-58.2    12-22-40
.7    LKEZQEBVBJ                                          31 WEST
ERN MEDITERRANEAN AREA         392 GREECE-ALBANIA BORDER REGIO
N
264  1035 BM 68  1 11 2439867 45.8 N 152.5 E 19 222 56.  56
   64.9    310.8 18 19  9.0 18  8 25.8  1035 BM     68/01/11
  2439867    45.8 N    152.5 E    5.0
                   56     64.9     310.8   18-19-09.0    18-08-25
.8    ORWELDIYQW                                          19 JAPA
N - KURILES - KAMCHATKA        222 KURILE ISLANDS REGION

264  1035 F1 68  1 11 2439867 45.8 N 152.5 E 19 222 56.  56
   64.9    310.8 18 19  9.0 18  8 25.8  1035 BM     68/01/11
  2439867    45.8 N    152.5 E    5.0
                   56     64.9     310.8   18-19-09.0    18-08-25
.8    ORWELDIYQW                                          19 JAPA
N - KURILES - KAMCHATKA        222 KURILE ISLANDS REGION
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